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ABSTRACT

This handbook presents research findings from recent work force literacy programs, practical applications for workplace literacy programs, and resources for community colleges and technical institute personnel to use in forming partnerships with business and industry. Following a list of project staff, an acknowledgements section, and a brief preface concerning the consortium that developed the handbook and the reasons why it is needed, the handbook consists of five main sections. The first of these introduces the idea of work force literacy research review on the nature of the adult learner; 22 references are cited. The next section presents an overview of the development and management of a work force literacy program partnership. Appendixes to this section include materials that can be used in setting up a program/partnership. A review of literature and 44 references are also included. This is followed by a section concerning assessment and evaluation. The section includes an overview, appended assessment materials, a literature review, and 52 references. Next, an overview of curriculum and instruction for work force literacy programs is presented; it includes an appendix of curriculum material samples, a review of literature, and 36 references. The final section includes a glossary, publishers' addresses, newsletter listings, suggested readings and resources, and a list of the consortium's advisory committee members. (KC)

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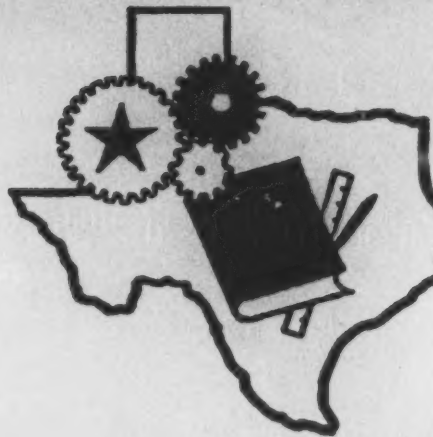
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Designing and Implementing WORKFORCE LITERACY: Programs in Partnership with Business and Industry

Handbook
for
Community Colleges
and
Technical Institutes
in
Texas

First Edition
June, 1991

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Customized Courses . Partnership Roles . Literacy Audits . Technology . Metacognition . Job Specific Material . Task Analysis

Computer Based Programs . Metacognition . Instructional Context . Instructional Strategies . Schema Theory . Staff Development

Designing and Implementing Workforce Literacy:

Programs in Partnership

with

Business and Industry

by

The Texas Workforce Literacy Consortium

Dallas County Community College District

El Paso Community College

North Harris Montgomery Community College District

1st edition, June, 1991

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**Texas Community College and Technical Institute
Workforce Literacy Consortium**

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This handbook is one of the products from a year of research and study of workforce literacy. In addition to the handbook, the Texas Workforce Literacy Consortium sponsored a week long institute in Galveston, Texas, to representatives of 36 community colleges and technical institutes. The ideas presented in this handbook are a compilation of hundreds of professionals' ideas, research, programs, reports, etc. Although this is the first attempt to compile the data into a handbook, the consortium plans to add and refine content to second and third editions of the handbook in June 1992 and June 1993 respectively.

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A consortium of three colleges to implement a project of this magnitude is rather unique, but the writers of the original grant proposal felt one of the best products of this project would be the collective wisdom of many individual's ideas regarding effective delivery of workforce literacy programs in the state of Texas. Through the networking, collaborations, and partnerships that will follow through the years at additional community colleges and technical institutes, the collective work and wisdom will result in a more productive model for addressing the educational needs of the workers in the state.

PREFACE

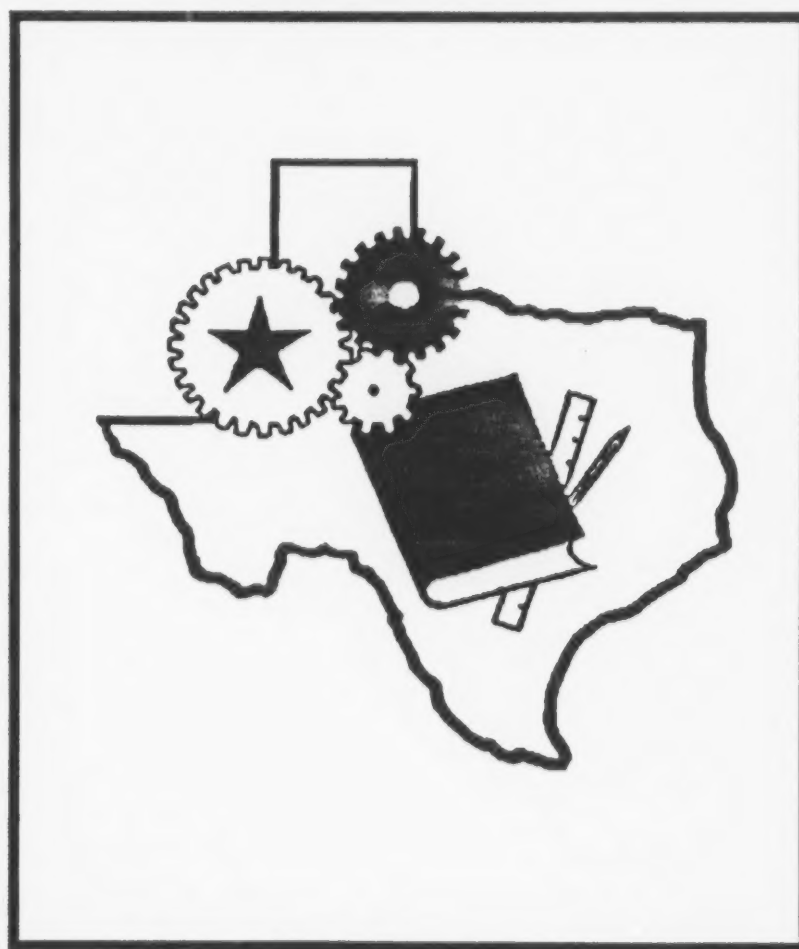
The topic of literacy has been of national interest since the early 1970's when the first national surveys of literacy performance were conducted. In the eighties, however, the topic of literacy became a national priority and the focus of countless agencies and organizations. For the nineties, literacy has become crucial for the economic survival of our country, yet, we have not really been able to address it in a systematic, organized or unified fashion.

Currently, there are major literacy movements in public educational institutions, private literacy organizations, social agencies, professional organizations, governmental departments, serving prisoners, probationers, welfare recipients, high schooldrop outs, pregnant teens, and the homeless. There is intergenerational literacy, workplace literacy, community based literacy and participatory literacy. Literacy programs are offered in schools, in churches, in homes, in community centers, in libraries, in shopping malls, in mobile vans and at worksites. The Department of Education, Department of Labor, Department of Commerce, and Health and Human Services have all become involved in literacy. These lists are not exhaustive, of course, but intended to demonstrate that literacy has become a goal of nearly everyone. One might argue that this is good because the number of illiterate adults (experts say one in five) is tremendous. This "each one teach one" approach to achieving literacy in this country has resulted in an inconsistent public policy and a lack of strategic planning needed to address the illiteracy crisis effectively.

The result has been confusion over definitions of what literacy and related terms mean; disagreement with the appropriate and accurate assessment of literacy skills and behaviors, not to mention the methods for delivering literacy services; conflict related to the appropriation of funding from both the public and private sectors; and unhealthy competition for the post of "literacy czar." Consequently, we have no coherent leadership for becoming a literate nation; funds are allocated through a variety of agencies and organizations, resulting in severe duplication of efforts and internal conflict; and we have no direction in studying the problem and determining the best solutions to resolve it. One might say that we are illiterately approaching the problem of illiteracy.

The picture is not totally bleak, however. There have been several efforts to pass legislation that will establish a national center for literacy. While these efforts failed in the 1990 legislature, there are still many professionals working together to form partnerships and unions that will facilitate greater consistency in the literacy movement. Further, there is more research being conducted to study the problems of illiteracy and what instructional approaches are needed to resolve it. The Consortium is an example of both of these efforts. It is a partnership between three community colleges designed to research the components of model workplace literacy programs and disseminate that information to other professionals.

Introduction



WORKFORCE LITERACY

Literacy providers have been implementing literacy courses and/or programs for the workforce for the last twenty years, but the 1980s have experienced an intense focus on the need and a heightened attempt to address the need.

The 1980s have been a period of reflection and self study by national and state commissions and agencies; educational, business, labor, and political leaders; and experts promoting reform. In a Research Report from The Business-Higher Education Forum and The Public Agenda Foundation, Cross Talk: The Public, The Experts, and Competitiveness, the authors report that over 300 reports have been written and presented that review some aspect of concern about the knowledge and skills of American students and workers. It is the general consensus of congressional hearings, research reports, test scores reports, seminars, conferences, studies, etc. both at the national level and the state level that the American workforce has been losing its competitiveness in the global market. The quality of life in the United States is at stake.

Most "call for action" papers, reports, or addresses suggest or agree with the Cross Talk analysis that the nation must:

- reduce its burgeoning rates of illiteracy;
- dramatically increase the number of young Americans successfully completing school;
- offer education that is truly competitive with that provided by other advanced industrial democracies;
- increase the number of young Americans trained in the scientific and technological skills needed for the 21st century; and
- rapidly expand the training and retraining available to the American work force (1991, preface).

Recommendations from other reports such as America's Choice: High Skills or Low Wages (1990) call for new paradigms that promote the creation of high performance work organizations. Although many specific recommendations are suggested for the nation's complex problem of readiness for the workforce, it is apparent from the commission's report that public schools and postsecondary institutions are asked to do a better job of preparing individuals for the workforce. The report also calls for work organizations to invest in all their workers. Corporations, businesses, and labor are asked to upgrade all current workers' academic and technical skills, not just their managers' skills, which has been the usual training philosophy in work organizations. Historically, the emphasis has been placed on training managers, new employees for orientation, and safety programs. The majority of workers have not been the recipients of business and industry's training or educational emphasis.

More evidence of this need has been reported by Chisman in JUMP START: The Federal Role in Adult Literacy (1989). He describes the situation:

Seventy-five percent of the people who will constitute the American workforce in the year 2000 are adults today. They are out of school. Most are beyond school age. Most are working....This 75 percent adds up; to about 100 million workers....tens of millions (of that pool) are seriously handicapped in their work and in their every day lives by a lack of basic skills.

Related to this philosophy of emphasizing skill development for all levels of workers and students are comments made recently by Lester Thurow, Dean of MIT's Sloan School of Management, in speaking to thousands of school board members at their annual convention in San Francisco (April, 1991). Thurow reminded the educational leaders that developing new products used to be the way that contemporary nations became powerful and wealthy, but emphasis is no longer on the invention of the products. Developing better processes for producing these products is now the way a nation becomes powerful and wealthy, offering a high standard of living for its citizens. Thurow said, "If the name of the game is inventing new products, all we have to do is educate the top 25 percent of students; but if the name of the game is process, you'd better educate the bottom 50 percent, because they're the ones who will staff the production of the products."

The self-study of the 80s is manifesting a "restructuring, reform, and reorganization" movement for the 1990s. President Bush's "Strategy 2000" is an attempt to focus on comprehensive changes for education. Public schools and universities across the nation are examining alternatives for curriculum and the measurement and evaluation of students' performance to determine if students' skill levels are improving. This same "restructuring, reform, and reorganization" mindset is fostered in businesses, industries, and labor organizations. Nearly all major reports are recommending partnerships, collaborations, and linkages among business, labor, and education to find solutions that improve performance levels of students and workers.

With the current emphasis on upgrading workers' skills and the high visibility of educational reform, it is not surprising to witness the strong emergence of workforce literacy programs throughout the nation. Community colleges and technical institutes are in a position to provide leadership to this field because of their historical experience in delivering basic skills training and their experience in providing services to business and industry. This handbook is intended to be one of the resources that Texas community colleges and technical institutes utilize as they initiate or expand their partnership role in serving business and industry's needs.

Although there have been sporadic offerings of workforce literacy in the 60s and 70s, there are some major differences in programs that have emerged and are continuing to emerge in the last decade. Many historical programs and some current programs have utilized a general literacy approach versus an occupational literacy approach. The general literacy approach is characterized by the importing of traditional adult basic skills programs to the

worksite with the anticipation that if employees' basic skills (reading, writing, computation) are upgraded, then their on-the-job performance will improve. The occupational literacy approach is characterized by the integration of basic skills with job-related knowledge in the anticipation that an employee's on-the-job performance will improve and that s/he will be able to transfer new basic skill strengths to other jobs. Both of these definitions assume that a needs assessment has revealed deficiencies in employees' basic skills which are contributing to deficiencies in job performance.

David Harman, author of Illiteracy: A National Dilemma (1987), stresses that there is a difference between workplace (occupational) literacy and general literacy. The context in which an individual reads, problem solves, computes or writes is critical. Further research conducted by Sticht, Mikulecky and others in the 1980s concluded:

Marginally literate adults in a job-related reading program made twice the gain in job-related reading than they did in general reading, suggesting that more rapid learning of particular types of reading will occur when training is specifically focused on that type of reading rather than on "general" literacy (1987, p. 2.16).

Data gathered by Thomas Sticht and Larry Mikulecky supports the retention of basic skills when they are presented within the context of the workplace.

Stack (1989) noted in a review of literature that the evolution of occupational literacy programs really has two stages. The early stage is best represented by nationally visible programs sponsored by Polaroid Corporation, Burlington County College—Lignotock Corporation, An Urban Retraining Program for Wastewater Treatment Workers, Cummins Engine Company, and Control Data Corporation. Although these programs utilize competencies centered around the job and they utilize job-specific materials, they continue to utilize standardized tests for assessment. Stage II has evolved into the use of job-specific assessment and evaluation instruments and processes. Another characteristic of this stage is the use of expanded basic skills. Workplace Basics: The Skills Employers Want (1990) provides a general outline for curriculum based on the skills employers want their employees to have. The seven skill groups in the curriculum are:

- learning to learn
- reading, writing, computation
- listening and oral communication
- creative thinking and problem solving
- personal management skills
- group effectiveness
- organizational effectiveness and leadership

Another literacy model, the Flower/Hayes model of Job Literacy Problem Solving (1981), proposes that there are other skills to be learned in addition to the specific ones of reading, writing, and computation. In the Flower/Hayes (1981) model each of the competencies requires

creative and critical thinking and problem solving skills which can be taught and learned. Other evidence of this trend can be seen in the Department of Labor's SCANS (expected to be available in the summer of 1991). The Secretary's Committee on Assessment of Necessary Skills identifies five broad domains of skills that schooling should be stressing for employer's needs of the future. They are 1) interpersonal skills, 2) information processing skills, 3) knowledge about systems, 4) knowledge and utilization of technology, and 5) utilization of resources.

This more evolved and sophisticated model of workforce literacy can be observed in reviewing both Sticht's and Mikulecky's reports of the 1980s. This evolutionary development of workforce literacy is consistent with development in other fields. In recent years the fields of cognitive psychology, linguistics, and artificial intelligence have provided insight into how people learn. Particularly significant has been the emphasis on schema theory.

Schema [previous knowledge of and experience with a topic] is the basic structural unit in schema theory and provides a useful foundation for subsequent understandings and performance. Theoretical research into the role of schema in enhancing reading comprehension helps to explain the process through which workers are able to use print in the workplace. . . . According to schema theory, the more familiar readers are with topic and format of new material, the greater will be the likelihood of understanding and using it (Mikulecky, p. 9).

McNeil (1987) suggests and explains schemata as "the reader's concepts, beliefs, expectations, processes—virtually everything from past experiences—that are used in making sense of text; the printed word evoking the reader's associated experiences, and past and potential relationships" (p. 5). There is evidence to support the phenomenon that the more an individual knows about a topic, the more efficient the learning becomes. This view has implications for instruction. It gives the instructor/trainer/facilitator a very different role in the fostering of basic skill acquisition. It becomes part of the teacher or trainer's responsibility to develop schemata when they are missing or to help the learner to recall or refine schemata. It also gives them the additional responsibility of assisting learners to assimilate and accommodate new pieces of information as they are exposed to knowledge and information as they read, write, compute, problem solve, and think critically.

Much progress has been made in recent years in reading comprehension research that appears to impact the field of workforce literacy. Because of the heavy emphasis on decoding, many educators over the century have emphasized fluent and accurate decoding; it was expected that comprehension of text would automatically follow. As a result, there has been little instruction in the process of comprehension. Most teachers/facilitators/trainers of children and adults have emphasized testing the product of reading. Very little instruction has been given to the "how to" aspects of reading comprehension: "how to" find the main idea, "how to" read a chart, "how to" read critically, "how to" outline,

"how to" hypothesize and make predictions, "how to" summarize, "how to" classify. Many emerging programs recommend that the instructor model these "how to" behaviors so that the learner can practice and hopefully acquire the processes that will make them an efficient learner.

McNeil, in Reading Comprehension: New Directions for Classroom Practice (1987) lists four assumptions underlying the process approach:

1. What pupils already know affects what they will learn from reading....reader's prior knowledge (schemata) interacts with text to create psychological meaning.
2. Both concept-driven (top-down) and text or data-driven (bottom-up) processes are necessary in comprehending texts. Good readers approach texts with top-down strategy and then use selected schemata to integrate the text, disregarding schemata that are inappropriate. Less able readers tend to over rely on either a top-down strategy or a text-driven process, which has a deleterious effect on comprehension. An over-emphasis on top-down processing results in inferences that are not warranted by the text, while an over-emphasis on bottom-up processing—staying close to print—results in word calling.
3. The deeper a person processes text, the more he or she will remember and understand it. The more connections a reader can make between details, examples, main ideas, and abstracts will result in better understanding and retention.
4. The context in which reading occurs influences what will be recalled. The purpose, judgement, mindset, attitude, valuing, and interest and experiences of a reader are all critical to the product (pp. 3-4).

Particularly McNeil's third and fourth assumption support the integration of job tasks and basic skills as well as the utilization of job specific materials for instruction. Weinstein (1991) provides further support in a discussion on memory. She suggests that cognitive psychologists have continued to find evidence that learner's remember those things that are most meaningful and connected to them.

Crismore and Mikulecky (1987) note other related developments in workforce literacy. They report:

In order to better understand, describe, and explain how job literacy is an enabling factor for solving work place tasks, it is necessary to investigate a process model that is built on theories of both problem solving and literacy. Such a model would include components and sub-processes for oral, aural, and visual literacies, reading and writing literacies, social interaction, and problem solving, and it would be non-linear and recursive (p. 5).

Some promising future development in the workforce will probably include some variations of the Flower and Hayes' model, "A Cognitive Process Theory of Writing." Such models will emphasize problem solving processes, goal setting, and self-monitoring [metacognitive awareness] and use of strategies to monitor and self-check other strategies (Brown, 1980).

In summary, recent workforce literacy programs reflect an integration of current research findings from diverse disciplines. This handbook is designed to provide some of these research findings, practical applications, and resources for community college and technical institute personnel to utilize in forming partnerships with business and industry in their communities. This handbook is not meant to be exhaustive or comprehensive; but it will serve as a helpful guide. For educational institutions already implementing workforce literacy programs, the consortium anticipates that the users will validate their own work in this emerging field. For community colleges and technical institutes planning to initiate partnerships in the near future, it is anticipated that this handbook will serve as a valuable starting point. This handbook will be revised in June of 1992 and June of 1993 to reflect additional information and trends.

NATURE OF THE ADULT LEARNER

"At the heart of life itself
is the process of learning."

—Peter Jarvis, 1987

Employers have become so focused on the fundamentals of improving employees' basic skills that attention to the process of adult learning is sometimes neglected at the expense of the learner, and ultimately, the organization. Carnevale, Gainer, and Meltzer succinctly acknowledge this concern and contend that "knowing how to learn is the key that unlocks future success"(1988, p. 8). An overview of philosophies of adult learning can enhance the abilities of a program developer when formulating a viable program of adult basic workplace skills.

Adult education is a very broad term which Knowles places into three categories (1980, p. 25):

1. The process of adults learning. Whether it is used for self-development or within an institution, this includes most all of the "experiences of mature men and women by which they acquire new knowledge, understanding, skills, attitudes, interests, or values."
2. Organized activities within an institution. This includes formal and informal learning activities within an organization "for the accomplishment of specific educational objectives."
3. Combination of processes and objectives into a field of social practice. This is the integration of experience and learning activities which lead to the common goals of the learner and the organization.

Adult learning can be motivated by some internal desire for change; however, Brookfield relates that, it is also often the case that the most significant learning we undergo as adults results from some external event or stimulus that causes us to engage in an anxiety-producing and uncomfortable reassessment of aspects of our personal, occupational, and recreational lives (1986, p. 22).

Argyris similarly relates that learning occurs when a problem is discovered by the learner and there is a separation between the learner's experience and knowledge. It is then that "they invent a solution to the problem, produce the solution, and evaluate the outcome" (1982, p. 38.).

Jarvis makes a distinction in the learning process between memorization and reflection and explains that reflection is an essential component in any theory of learning. "Reflection implies the possibility of the creation of new knowledge and different techniques (1987, p. 99).

A discussion of the concept of different techniques of adult learning would be remiss if it did not include the work of Elias and Merriam and their analysis of six philosophies of adult education. The authors contend that "the professional adult educator is more like the person of art who creatively combines experience and theory in the activity of teaching" (1980, p. 9).

1. Liberal Adult Education. To develop the intellectual powers of the mind in a broad sense. Learning methods might include lecture, study groups and critical discussion.
2. Behaviorist Adult Education. To promote behavioral change. Learning methods would include programmed instruction, contract learning, CAI, and practice and reinforcement.
3. Progressive Adult Education. To promote social change; to give the learner practical knowledge and problem-solving skills. Learning methods include scientific and experimental methods, problem-solving, project, and inductive learning.
4. Humanistic Adult Education. To enhance personal growth and development. Learning methods could include group tasks, individualized and self-directed learning.
5. Radical Adult Education. To bring about social, political and economic changes through education. Learning methods would involve active group discussion and interaction and problem-posing.
6. Analytic Philosophy of Adult Education. Emphasizes the need to clarify "concepts, arguments, and policy statements used in adult education."

Understanding the variety of philosophies of adult learning paves the way for determining the most advantageous combination of learning styles and teaching techniques.

Marton and Saljo discuss the concept of learning and report that learning "is a very complex process but one in which individuals' strategies differ, with some students seeking holistic approaches to their learning and others being more atomistic" (Jarvis, 1987, p. 7). Jarvis presents Saljo's research which demonstrates that "adults have five qualitatively different approaches to learning (1987, p. 7):

- a quantitative increase in knowledge
- memorizing
- the acquisition of facts, methods, etc. which can be
- retained and used when necessary
- the abstraction of meaning
- the interpretative process aimed at understanding reality.

Malcolm Knowles has pursued the quest for understanding the adult learner and his/her educational needs. As a result of this quest, he has come to be known for his use of the term andragogy and its application to adult learning. Originally, Knowles saw andragogy ("the art and science of helping adults learn," 1980, p. 43) and pedagogy ("the art and science

of teaching children," p. 43) as dichotomous. However, he has since declared that these terms are best applied to a continuum and that "andragogy is simply another model of assumptions about learners to be used alongside the pedagogical model of assumptions, thereby providing two alternative models for testing out the assumptions as to their 'fit' with particular situations" (1980, p. 43).

Knowles does believe, however, that when it comes to developing and implementing educational programs for adults, the principles of andragogy supersede those of traditional pedagogical practices. Knowles presents **seven phases of the andragogical process** which are instrumental in the planning of adult education programs (1980, p. 59):

- The establishment of a climate conducive to adult learning;
- The creation of an organizational structure for participative planning;
- The diagnosis of needs for learning;
- The formulation of directions of learning (objectives);
- The development of a design of activities;
- The operation of activities;
- The rediagnosis of needs for learning (evaluation).

Brookfield cites Sork (1979) and offers his "procedural model" that can be used by community educators when determining the priority of adult learning needs. Sork presents **six criteria within the model** (1986, p. 239):

- Contribution to goals. How important are the goals to which the need relates?
- Magnitude of discrepancy. How great is the measurable discrepancy between the current and future valued state of affairs?
- Immediacy. To what degree must the need be met immediately?
- Instrumental value. Will meeting the need have a positive or negative effect on meeting other needs?
- Availability of resources. Are resources to meet the need available?
- Commitment to change. Are 'relevant publics' committed to meeting the need as defined?

Brookfield reflects that "developing a clear philosophical rationale to guide practice" is one way to determine program practices. He contends that program developers must be brave enough to sort through the materials and models and even be willing to design a model which is specific to individual circumstances.

Knox (1982) makes the correlation between learning and program development in relation to establishing priorities and decision making. Brookfield expands on Knox's analysis of

priority setting and the adult learner with the belief that "the fundamental outcome of education and training should be the enhanced proficiency of adult learners, 'enhanced proficiency' being defined as an increased capacity to perform effectively" (1986, p. 237).

Guiding an adult to learn more effectively is what Carnevale, et al. advocate. Understanding the learning approaches of individuals and using the theories of adult learning will facilitate the "knowing how to learn" process. Armed with this knowledge of how an adult best learns, Bowsher points out that the program must also consider the rapid changes in demography, society, and technology. He cites the following factors which must be considered (1989, p. 215):

- By 1990, 52 percent of the workforce will be between the ages of 24 and 54.
- By 1995, 60 percent of the labor force will be women.
- 85 percent of workers in the year 2001 are already at work today.

Clearly, adult learners are a large, diverse group who must have education programs to restart, change directions, and move into new fields as well as to provide growth in their existing careers (Bowsher, 1989, p. 215).

Philippi also expresses the concern over the demographics and the shrinking pool of employable applicants, which in turn has "focused attention on the need for job literacy training" (1988, p. 658). Philippi acknowledges that "extra effort" is necessary when designing "job-specific literacy instruction" for adult learners. Teachers and program developers "must learn to create instruction that is guided by student knowledge and job needs instead of traditional teacher directives" (1988, p. 664).

The assumptions and principles of adult learning theory can also be applied to Sticht's research of the Functional Context Approach for developing occupationally related basic skills programs. To facilitate learning, Sticht (1987, p. 5.3) advocates the following strategies:

1. Let students know what they are to learn and why in such a way that they can understand the purpose of the training or education to their lives.
2. Develop new knowledge on the basis of old (previous) knowledge that the student has on entry into the program.
3. Develop new lessons on the basis of old lessons so that the new learning builds on prior knowledge.
4. Integrate instruction in "basic skills" such as reading, writing, and arithmetic into the technical training or academic content area courses to permit students to better negotiate the requirements for these skills in the program at hand, and permit them to transfer such skills to other, related settings.

Philippi concurs with the success of the Functional Context Approach for adult learners of basic skills programs and relates that "normally, these adult learners have not achieved success from the years of exposure they have had to general skills development within a traditional education approach" (1989, p. 4).

Carnevale, et al. reiterate the importance of discovering "how an employee best absorbs information" (1988, p. 9). Adult learners may need to be exposed to a variety of learning strategies in order to meet the demands of a rapidly evolving workplace and competitive global economic pressures.

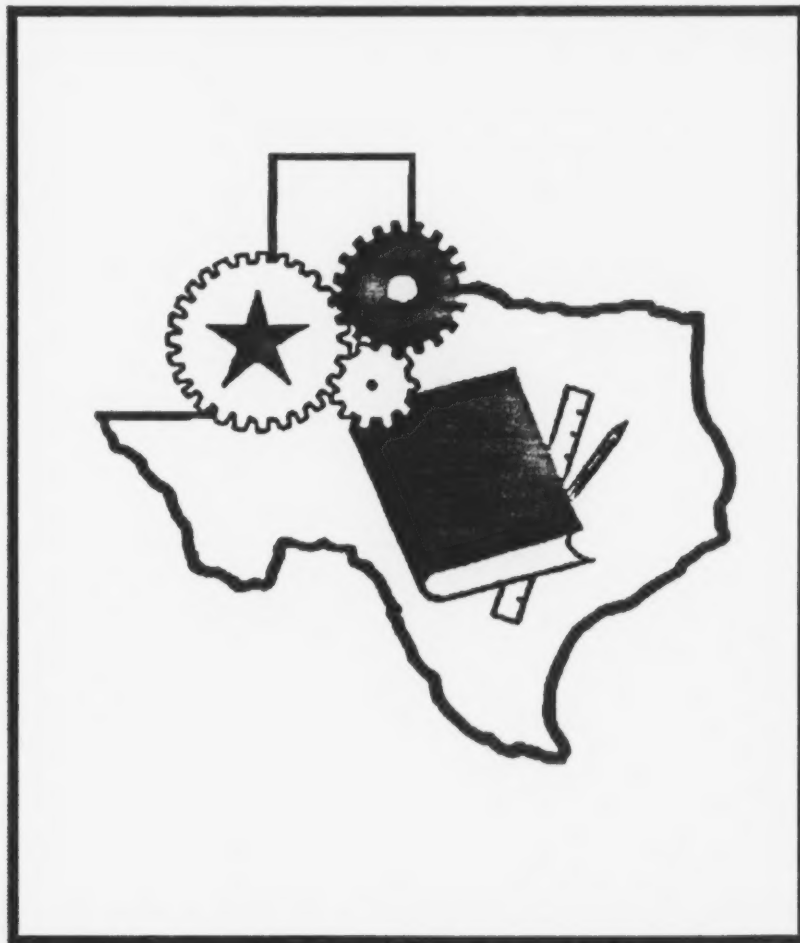
The employees who know how to learn can greatly assist an employer in meeting its strategic goals and competitive challenges, by more efficiently applying new knowledge to job duties and tasks. Productivity, innovation, and competitiveness all depend on developing the learning capability of the workforce (Carnevale, et. al., 1988, p. 10).

INTRODUCTION AND NATURE OF THE ADULT LEARNER: RESOURCES

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Management



MANAGEMENT: OVERVIEW

INTRODUCTION

Ten years ago we were shocked to learn that "Johnny and Jane can't read." Today statistics point to the disheartening fact that "Johnny and Jane can't work" (Meyers, 1990). According to the Hudson Institute Workforce 2000 report, one of the trends shaping this decade is that rapidly changing technology, both in the manufacturing arena and the burgeoning service industries, is demanding much higher skill levels from employees. In fact, "technology will introduce change and turbulence into every industry and every job, with the necessity for constant learning and constant adaptation by workers a certain outgrowth of technological innovation" (Johnston and Packer, 1987).

Numerous articles, reports and studies abound about the necessity of upgrading skills in the workforce and the new arena of workplace literacy or basic/essential skills training; yet, a recent 1990 survey by the Society of Human Resource Management and Commerce Clearinghouse reported that 70% of companies reporting employees lacking basic skills are not providing basic skills training. So what are they waiting for? Perhaps because it is difficult to ascertain how widespread a problem may be since employees have been so adept at hiding deficiencies. In Texas, where workplace trends have recently been surveyed (Greenwood, 1989), the need for basic skills training is seen to be great, but employers are slow to invest in remedial skills development because of the lagging economy. But even now program planning is taking place for training investments as the economy turns around. Some Texas companies have also taken the initiative and currently offer programs that will provide a wealth of information for new programs.

Community colleges and technical institutes, with already established links to local companies through customized training services and advisory committees, are in an ideal position to be the educational service providers of choice to business and industry. According to Karen Mills, Associate Dean of Instruction at Rio Salado Community College, the challenge of workplace essential skills training lies in who should be responsible for training—industry or education? A partnership approach is the most effective strategy. Industry can address job-specific information, but is not equipped to address the conceptual or academic foundations of skill building. While education institutions can address overall acquisition of skills, they tend to provide services in isolation of the world of work. By bringing the expertise of each together, a bridge is built to establish change-making, innovative, successful programs.

One of the ways community colleges and technical institutes can manage the complexity associated with delivering essential skills training programs is to hire or assign the task to a staff member designated as a workforce literacy specialist. This person does not bear the burden of "resident expert" in every detail of workforce literacy issues, but is considered a generalist with knowledge of how to coordinate the key pieces of a program. General responsibilities include:

- * Management of the project team including counseling staff, curriculum/instruction

designers, instructors and client liaison staff

- * Project management and scheduling skills associated with training needs of shifts
- * Communication/Interpersonal skills associated with dealing with a variety of personalities and generating reports and recommendations from accumulated data
- * Knowledge of resources available in the community such as volunteer agencies and how to access services
- * Knowledge of where to find more information about workforce literacy training issues

This handbook is designed to give an overview of the pieces of the puzzle called essential skills training in the workplace. It may not be necessary to use everything that is addressed as a part of every program that an institution provides to industry. Pick and choose and even add what is applicable for the unique situation. After all, that is what management is all about!

Managing essential skills training programs is a complex and potentially rewarding process. When challenged to create essential skills programs, workforce literacy specialists must skillfully navigate three major areas. These areas are **program design, development, and implementation**. The goal of this chapter is to identify management issues that occur in each phase of program development so that workforce literacy specialists may understand what is involved in creating partnerships to establish essential skills training programs for the workplace.

Objectives

The primary objective of this chapter is to identify the information a workforce literacy specialist must know or be able to access in order to successfully manage an essential skills program. After reading this chapter, the workforce literacy specialist will be able to:

- ▣ Identify five management processes in the development of essential skills training programs
- ▣ Identify and select marketing strategies tailored to an educational institution or business/industry's client needs
- ▣ Describe the kinds of data collected in the needs assessment process and how the results are used in program development
- ▣ Describe the concept of "partnership" to clients
- ▣ Identify the elements included in contract negotiation
- ▣ Identify strategies for successful instructor selection and training
- ▣ Identify effective participant recruitment and selection strategies
- ▣ Identify strategies for handling legal issues

In this chapter the term essential skills is encompassed in the ASTD expanded definition of basic skills which includes job-based reading, writing and computation skills as well as learning to learn, creative thinking/problem solving, and teamwork (Carnevale, Gainer, & Meltzger, 1989). To American industry which plans to remain competitive in an international marketplace to the year 2000 and beyond, essential skills training is absolutely necessary.

The Educational Provider as Primary Partner

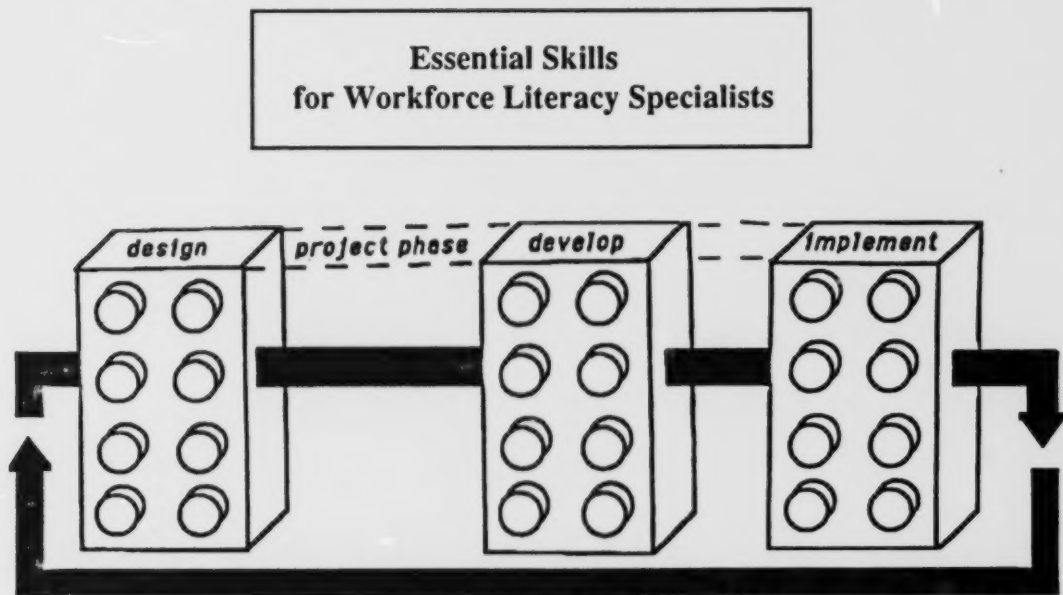
Although community colleges may be extremely well situated to provide essential skills training, a single institution cannot be all things to all clients. This chapter is designed with the educational institution (i.e., community college or technical institute) as the primary contractor in partnership with the client and other service providing agencies. It is important to know the exact nature of the service the primary provider is best qualified to provide. Not only must the workforce literacy specialist be aware of the institutions' resource strengths and deficits, but also of community and government resources available to assist in program development. The concept of partnership is an important aspect of managing essential skills programs. Before a program begins, the educational provider must ask and answer a series of preparatory questions to discern what institutional expertise may be brought to the essential skills marketplace by the primary provider. Some questions include:

- ▣ Does the institution have a track record of success in essential skills or a related area such as general adult literacy?
- ▣ Does the institution have a contract training department, a JTPA program, small business development center, or some other established contacts with business and industry leaders in the community?
- ▣ What personnel and material resources can the primary provider bring to bear on the program? Will there be institutional, in-house support of staff, time, and funding for the partnership?
- ▣ What literacy programs, adult education programs, curriculum development consultants, and/or non-profit literacy organizations exist in the community? What skills can they provide? Can services be sub-contracted?

The Model

The processes a workforce literacy specialist must manage when developing an essential skills program are not easily listed in chronological order. Essential skills programs are unique; even when comparing one program to another there are more differences than similarities. Some general principles of program development, however, do apply to essential skills training. The model below, (figure 1), was developed to illustrate these general principles as they relate to management.

The model consists of three separate building blocks which represent the design, development, and implementation phases of a program. Management is the thread which runs through all three phases and their processes. These phases encompass program activity from the initial idea to market essential skills training to the community, or respond to a company request, through the final measure of a program's outcomes.



These phases in practice are not as clear cut as they appear here. It is safe to assume that a decision made early in the design phase of a program may be changed during the development phase. Some decisions will have a direct impact on a number of other decisions within a phase, and some decisions may bridge the gap between phases. For example, the initial needs assessment may indicate particularly low reading levels of workers. When instruction is begun, different needs may appear, such as slow reading speeds vs. low reading levels, which could require new training decisions. The following guidelines help to define program phases by listing a management activity that begins the phase, a series of management landmarks that occur within the phase, and a management activity that concludes the phase.

The **Design Phase** of a program begins when the education provider solicits clients in business and industry or is contacted by a company to provide essential skills training. More specifically, the Design Phase of program development includes:

- ❑ the design, development, and implementation of broad-based and tailored marketing strategies, which yield a potential client
- ❑ initial meetings with the potential client to "get acquainted" and discuss needs
- ❑ the design of a customized needs assessment
- ❑ signing a contract for conducting the needs assessment
- ❑ developing and implementing the needs assessment
- ❑ analyzing and presenting the results of the needs assessment
- ❑ collection of material to support presentation of program options for educational design and administration of program to client
- ❑ presentation of program development options to the client, which provides the raw material needed by the client and the workforce literacy specialist to make informed decisions about the strategic plan for the program

The **Development Phase** of a program commences after a planning proposal is approved by the client and primary provider. In this phase the workforce literacy specialist concentrates on managing the development of curriculum and instruction and on contract negotiation. Instruction is readied for implementation and the final contract is prepared for signature.

Specific tasks to be completed during the development phase are:

- ❑ establish partnerships among providers and client
- ❑ delineate partner roles
- ❑ develop learning outcomes, evaluation procedures, instructional strategies; instructional procedures
- ❑ select and train instructors and staff
- ❑ estimate costs for curriculum development; for establishing the learning site; for equipment and materials
- ❑ assess and recruit employees
- ❑ determine cost of training for instructors and staff
- ❑ negotiate and sign contracts

The **Implementation Phase** of a program begins after the contract is signed. During this phase, the program as stipulated in the contract is carried out. In this phase:

- ▣ preparation of facilities is completed
- ▣ instructional materials are completed
- ▣ employees are recruited, tested, and counseled
- ▣ instruction is delivered
- ▣ instruction, instructors and learners are evaluated; results are incorporated into program evaluation.

At the completion of the pilot class, all program data are collected and collated, and a final report is prepared which explores how well program goals were achieved. Feedback from the pilot is used to modify and revise as needed the design of the program's second cycle.

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MANAGEMENT PROCESSES

Management Processes are initiated and completed at different points in each phase.

- (1) Marketing
- (2) Needs Assessment and Goal Setting
- (3) Educational Design
- (4) Negotiation and Contracting
- (5) Administration

The following chart on page 2.8 of this chapter illustrates two levels, **PROGRAM** and the **PROCESS**. In addition to **PROGRAM** design, development, and implementation, each Management **PROCESS** must be independently designed, developed, and implemented. For example, the Process of Marketing includes a design phase, a development phase, and an implementation phase. Notice that the Process Phases do not necessarily correspond to the Program Phases. The marketing process, for instance, takes place entirely in the Design Phase of the program. Workforce literacy specialists must be aware of both levels of activity.

Process/ PHASE	DESIGN	DEVELOPMENT	IMPLEMENTATION
Marketing	Select strategy option	Develop promotional materials	Coordinate campaign
Needs Assessment & Goal Setting	Meet w/ client to discuss techniques; make recommendation.	Develop proposal meet w/ client to evaluate; sign contract for needs assessment.	Conduct needs assessment; use assessment data to formulate program goals.
Educational Design	Meet w/ client to review needs assessment data Discuss educational goals Identify educational design options Select design option	Develop or purchase curriculum/ evaluation/ instructional materials; Hire and train instructors, staff, and volunteers	Conduct training and instructional/ faculty evaluation
Negotiation	Meet w/ client to devise strategic plan	Present proposal Draft primary & partner contracts; Sign primary contract	Sign partner contracts; Allocate human & material resources
Administration	Meet w/ client to discuss recruitment/ retention/ support services/ legal/ ethical issues/ program evaluation/ plan database	Develop final plans for recruitment/ retention support services/ data-base and other program evaluation methods	Implement recruitment/ retention strategies/ child care or other support service; program evaluation
PROGRAM PHASE	DESIGN	DEVELOPMENT	IMPLEMENTATION

The remaining sections of this chapter will define and describe the Management Processes identified above. A summary at the end of this chapter lists management activities for each Program Phase.

(1) **Marketing** Some investigators believe American employers often do not initiate basic skills programs because higher skills mean higher wages (Gordon, 1991). Basic skills training requires a moderate to large initial investment and "profit" is long term and difficult to measure. Other studies show companies taking the initiative and calling on providers to develop programs. In any case, it is the workforce literacy specialist's challenging task to promote essential skills training to industry. One strategy is to market essential skills training as an investment in the future.

A. Build Community Awareness The first step in marketing essential skills programs is to use the college's established communication routes (such as public service announcements, newspaper advertisements and advisory committees) to reach a large cross section of the community. It is also important to be involved with the business sector of your community.

- Offer to speak at business and civic group meetings about the importance of upgrading skills. (Some marketable quotes about adult literacy are included in Appendix A 2.1-2.2)
- Establish a Workplace Essential Skill Committee within the Chamber of Commerce. In addition to serving as a forum for discussion, this group may generate action. One such group sponsored a day-long conference for literacy providers and businesses in which community literacy needs were identified and strategies were planned to fill those needs.
- Enlist support of local media in an awareness campaign.

This communication network will help to build community awareness of your institution's expertise in essential skills training.

B. Target Business and Industry Second, target business and industry with personal calls, letters of introduction, and surveys. Sample survey tools are included in Appendix A2.3 - A2.5. It is important to tailor marketing strategies to potential clients (Askov, Aderman, & Hemmelstein, 1989; Caldwell Community College and Technical Institute, 1989). Know the major products of the company you are targeting. Know something of

their management structure. Even if the company contacts you first, remember to **DO YOUR HOMEWORK!**

- Identify the structure and the mission of the company.
- Is there a union?
- What is the relationship between management and employees?
- Find the name of a person or persons you can contact directly; establish rapport.
- Practice professionalism. Courtesy, promptness, and follow through is expected when dealing with the business client.

C. Educate a variety of business/industry groups and personnel

■ **Educate Management and Unions**

- provide statistics and facts about closing the skills gap
- provide examples of successful programs
- demonstrate that the cost to retrain workers is less than the cost of firing and rehiring (Petrini, 1991).
- describe the concept of partnership
- create possible scenarios using the client's situation
- illustrate the exact nature of services that your institution can provide
- emphasize the learner-centered approach (Sarmiento and Kay, 1990)

■ **Educate small businesses**

- provide examples which describe the benefits of forming small business consortia; in this type of group, many small businesses join together to split the costs of educating employees in similar skills (Lund & McGuire, (Eds.), 1990; Small Business Administration, 1988)

■ **Educate employees**

- be sensitive to workers' self-esteem
- remind workers that essential skills training focuses on upgrading job skills rather than on remedial education
- emphasize skills training improves job performance and may lead to promotion
- be sensitive to employees' concerns about confidentiality

The **design phase** of the marketing process includes the consideration of all the possible marketing options and selection of appropriate campaign strategies.

The **development phase** of marketing begins when promotional materials are produced. The workforce literacy specialist's task is to direct and focus the development of materials, prepare strategies for presentation to clients, and make visits to business and industry personnel. The approach should include:

- A special appeal to upper management, as well as middle management and supervisors
- Meetings with union education committee (if applicable)
- Inclusion of workers in initial meetings to build trust
- Suggestions to the company that they establish an advisory committee to discuss building an essential skills program with education provider representation included

Implementation begins with the first community-wide public service announcement broadcast and ends when feedback from the first successful essential skills program is incorporated into the second complete marketing campaign. Remember that marketing tasks occur in-house with the client as well as to the community at large. The workforce literacy specialist's task during the implementation phase is to follow through with marketing plans. The points listed below may help to direct your efforts.

- Employ media to show project in progress.
- Use final evaluation and cost effectiveness data for future promotional literature and recommendations.
- Advertise or publish results as a case study.
- Publicize success stories to recruit future participants.

The result of successful marketing efforts should be a partnership in which a company is committed to providing an essential skills training program, and the educational team is identified and ready to begin its program design. How does the manager proceed?

(2) **Needs Assessment /Goal Setting** The second step in the process is to identify client needs, and then develop goals for the program. This is accomplished with the assistance of the client, through a series of consensus-building meetings. These discussions will clarify the organization's perspective on its essential skills needs and a general approach to a training program. It is important to remember that the role of the educational provider is to help identify the need; the client determines the recommendations that will be acted upon. Critical questions to address include:

- ☐ What company goals or performance standards are not now being met?
- ☐ Are there projected changes in the business that will add new goals or modify current performance standards?
- ☐ What skills are needed to perform effectively in particular jobs now and over the next five years?
- ☐ Do employees lack these minimal skills?
- ☐ What are the expected results if a training program is initiated?
- ☐ What evidence would indicate that results had been achieved?
- ☐ Is there a need for basic skills development or will another type of intervention better serve the client?

Needs assessment is part of the partnership process in which the educational provider and the client will together identify the essential skills deficits and strengths at the workplace. This process is initiated, developed, and conducted during the design phase of a program. Additional questions the workforce literacy specialist may choose to ask a client are listed in Appendix A2.6.

A Organizational Analysis Useful data is gathered by examining the jobs workers perform and the workers' individual skill levels. This assessment provides data which describes discrepancies between job descriptions and actual job performance, and also identifies areas where literacy intervention or some other form of intervention may be beneficial. The first step in conducting an organizational analysis is the **job-task analysis** which may be accompanied by a **literacy audit** (Camevale, Gainer, and Meltzer, 1990; Philippi, 1989; U.S. Department of Labor & U.S. Department of Education, 1988). These two techniques are methods that:

- * identify all tasks an employee must perform in order to successfully complete a specific job
- * determine essential skill levels (reading, writing, computation, problem solving) required of an employee to complete a task

The second step is **individual assessment** which may be conducted using criterion-referenced or standardized tests, interviews, and survey or questionnaire data.

Assessment results provide the linkage to the curriculum and instructional design process. The measures of basic skill levels required can be translated into competencies and learning outcomes that will improve job performance. Assessment techniques are discussed in greater detail in Chapter 3 of this handbook.

When the workforce literacy specialist and the client agree on assessment methods, the developmental phase of this process begins. Tasks the workforce literacy specialist must manage at this point include:

- Formalizing the rationale for conducting needs assessment (as negotiated in client/provider meetings)
- Identifying jobs to analyze
- Identifying workers to interview
- Planning time to perform data collection
- Notifying supervisors/workers when, where, and how data will be collected; allow time for workers' questions and concerns
- Identifying data collection procedures
- Identifying/hiring interviewers and analysts as needed
- Constructing questionnaire or interview schedule
- Identifying needs assessment results as pre-test measures for program evaluation and instructional design
- Proposing strategy to client and signing formal contract to conduct needs assessment

The needs assessment is implemented after the contract is signed. Data resulting from the assessment should be collated, summarized, and presented to the client before program goals are identified. A list of expected learner outcomes is one product that will be generated from the data collected.

B **Setting Goals** Program goals are traditionally set when the needs of the client, the community college and its partners, and the worker are identified and articulated. The entire process of setting goals should occur in the design phase of a program. Application of goals to shape and guide other program areas, such as curriculum design, occurs in the development phase. During the implementation phase, goals are reviewed through a formative evaluation process. Summative evaluation may show the goals have been achieved or targeted for revision.

Program goals are seldom ideal; generally they are a carefully orchestrated balance between conflicting motives. Industry may be motivated by the need to improve productivity while showing a profit; workers may be driven by the need for career enhancement tools or job

security, and educational providers may be driven by institutional motives such as community outreach and faculty/staff development. It is the workforce literacy specialist's responsibility to design program goals which approximate the best meshing of these motivations.

C Worker/Learner-Centered Training

Educators should take time during these meetings to discuss the worker/learner-centered approach to essential skills training. This approach, popular in union education and training programs, has the worker playing a central role in program design and development. Learner-centered instruction is tailored to the needs of the worker on the job rather than to the instructor's comfort level or to the company's goal of increased widget output. Keys to a worker/learner-centered approach to planning and learning include (Sarmiento and Kay, 1990):

- Building on what workers already know
- Addressing needs of the whole person
- Decision-making and planning as a participatory process
- Designing curriculum content and program structure to reflect the varied learning styles of adults
- Involving workers in designing tests

Corporate training goals are usually directed toward effective performance standards. With reference to learner-centered instruction, corporate goals may be modified to view workers as learners with individual goals and motivations.

The aim of an essential skills training program should include program, instruction, and evaluation goals that will:

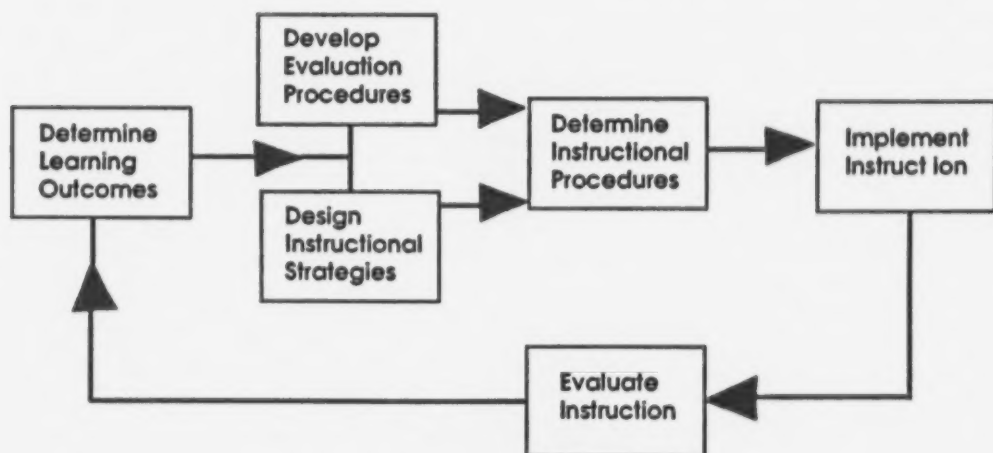
- Increase skills in math, science, reading, writing, and technical skills
- Strengthen employee ability to apply theory, analyze and solve problems, and adjust to change
- Broaden and sharpen interpersonal communication skills
- Build a foundation for specific job training
- Prepare employees for new technical applications on the job
- Demonstrate cost effectiveness of a program by collecting cost and savings data at strategic points
- Demonstrate learner satisfaction and improved performance of program graduates

A survey was conducted in 1989 by Rothwell and Brandenburg the results of which identify goals most often cited by business and industry when offering essential skills training programs. These are listed in Appendix A2.7.

All stakeholders—the company/union, the employee and the educational service providers—have goals. Partnership is crucial to the achievement of the overall goal of a quality workforce.

Goals help to set the boundaries of a program. Goals are broad statements which specify the domain from which program-wide objectives can be created. Program objectives must represent measurable outcomes which will form the basis of the program evaluation plan. Once program goals are established and assessment data is analyzed, planning for the educational design may begin.

(3) **Educational Design** Educational design involves planning what to teach and how to evaluate the learner outcomes. The process of educational design occurs parallel to each program phase. Instructional Systems Development (ISD), a process well known to industry trainers, was designed for use by the military (Dick & Carey, 1985). When adapted to the workplace, ISD is a systematic method for producing well-trained personnel in the least possible time (Sticht & Mikulecky, 1984). ISD can also be seen as a framework for workforce literacy specialists to use when interacting with staff or consultants about how to proceed with instructional design and curriculum development.



The first step in the ISD format is to determine learning outcomes (objectives). A key element of effective instructional systems is that learning outcomes must tie directly to the results of the client's basic/essential skill needs assessment. In the ISD process, evaluation procedures and instructional strategies (curriculum) are designed simultaneously. This is done to insure that evaluation instruments are influenced ONLY by stated educational objectives. Next, instructional procedures (methodology) which best augment the objectives are selected and the instruction is implemented.

The workforce literacy specialist is responsible for overseeing the coordination of the educational design process. A time line or a project planning tool would be helpful. Guidelines for time frame development are outlined in Appendix A2.8 - 2.9. Communication with the client is essential. To prepare for client meetings:

- Identify criteria to determine jobs for which training will be developed (i.e., "... all employees in jobs which require an eighth grade reading level or above will be targeted for training"; or, "... employees who score in the 90th percentile on the pre-test are exempt from mandatory training", etc.).
- Create job-specific learning outcomes.
- Gather information on evaluation procedures and instructional strategies and materials for learners, i.e.;
 - investigate standardized instructional packages and/or software for suitability
 - investigate objective testing options
 - link assessment to instruction and program evaluation
 - consider time and expertise necessary to customize instruction
 - plan to demonstrate cost effectiveness of training technique in final evaluation
- Propose instructional procedures. Factors include:
 - maximum time on task
 - context-based: job-specific training materials and simulated work environments
 - learner-centered approach
 - adherence to principles of adult education when developing instruction
- Design delivery of instruction.
 - plan delivery systems, including who does teaching and how it is taught
 - plan for instructor and staff training sessions
 - plan for volunteer tutor assistance, if desired
- Design evaluation of instructional system.
 - include pre- and post-test results in program evaluation planning
 - construct evaluation instruments for instructors, instructional material, and learner mastery
 - plan for supervisor follow-up of learner progress through interviews and questionnaires

Learners should be involved as much as possible in the development and implementation of instruction. One way to involve learners is to have the workers gather graphs, charts, instructions, signs, and any other written instructions. These materials can then be used to develop visual aids and lesson topics. Instructional methods should include simulation of work tasks and role play, modeling, and demonstration techniques (Mikulecky & Diehl, 1983).

The ISD process complements the learner-centered, functional context approach to essential skills training recommended by experienced adult educators (Sticht, 1987). The learner-centered approach is the focus of the curriculum and instructional design chapter of this handbook.

The design phase of the educational planning process involves creating learning objectives, considering the options available for curriculum content, and structuring the evaluation system. The design phase concludes when the entire process is presented to the client as part of a strategic plan.

Once the program plan is formalized through contractual agreement and timelines are projected, the development phase is initiated. Materials are created or purchased off the shelf and customized to learner needs; instructors/staff are hired and trained. During the implementation phase the training is conducted and evaluated. Program revisions are implemented immediately as a result of ongoing evaluation, or considered in program planning for the next training cycle.

Flexibility is the key to success!

(4) **Negotiation and Contracting** Before a contract may be signed, it is important to discuss the allocation and commitment of personnel and material resources with the client. Some important questions to consider are:

- What material resources are available for the program?
- Is funding available or will funds need to be raised? If funds need to be acquired, is there a staff member available to write a grant?
- Will computers be used in the instructional process?
- What will the instructor/learner ratio be in the classroom?
- Will tutoring be offered to participants?
- Does the educational provider have a lab with this equipment available?
At what cost to the institution?
- Does a workplace environment need to be simulated? What costs are involved in that process?
- Are classrooms available at hours workers may be able to attend? Are these rooms accessible to workers?

While several design proposals may be considered during negotiation, a formal strategic plan is the desired outcome. This strategic plan is the result of careful analysis and documentation.

At this point, the skills a workforce literacy specialist should possess to be an effective negotiator are described, the components of a strategic plan are identified, and specific issues related to the allocation and commitment of resources are presented.

The workforce literacy specialist will negotiate with business/industry representatives, learners/workers, as well as members of the educational team. Consequently, the workforce literacy specialist must have a wide range of negotiating skills. Expert communication and listening skills are crucial. An effective negotiator must be able to persuade, to argue logically in support of some points while conceding others, and to interact with partners in a congenial manner.

Strategic plans evolve from the initial goal setting and prioritizing processes. During the early stages of negotiation, the priorities of business/industry may be different from those of the workforce literacy specialist. Perhaps the educational provider's expertise is in developing customized curriculum. The primary concern of the client, however, may be to minimize training costs. A negotiated compromise may be to use packaged instructional materials, the computer lab at a community college, or volunteer tutors.

Based on the above negotiation, strategic plans are working documents which:

- specify program goals
- provide a rationale which justifies a need for the essential skills program (based on data from the needs assessment)
- estimate a time frame to develop and implement program
- propose curriculum content and training material requirements
- describe how material resources and personnel may be utilized in the program
- estimate overall cost

From the strategic plans, several options may be developed for presentation to the client. Presentations should assist the client in making a decision by including audio or visual elements, timelines, and costing information. The workforce literacy specialist should have a general idea of how to implement each of the options he/she proposes.

During this process, the educational provider should remember this is a partnership. The company may request or even be encouraged to take responsibility for some aspects of the program. The in-house training staff may, for example, conduct the job-task analysis and share results with the educational provider for curriculum design. The plan agreed on should reflect the needs, abilities, and resources of both the client and the educational institution. At all times, conversations with the client should be documented as a matter of record.

Allocation and Commitment of Resources Projects are limited or enhanced by the resources committed to them. The following six items are critical to successful resource allocation:

- building partnerships
- instructor selection
- staff development
- facilities selection
- costing/pricing
- contract negotiation

A Building Partnerships Developing the structure for participation between the partnership team can be complex, depending on the number of members as well as level and type of involvement. In the initial stages of negotiation, the partnership team must evaluate which services can be performed effectively and efficiently by the company and which will require the educational provider and/or other outside consultants.

If outside consultants are needed to develop a program for the client, these people should be identified and located. Some sources for additional help with the development of an essential skills program would include:

- Suppliers and Consultants—those that market training products (such as computer-based instruction) or services (such as job-task analysis).
- Trade and Professional Associations—profit and non-profit membership organizations with a particular area of expertise, such as the American Automobile Association (AAA) which provides effective training programs to its membership; or the American Society for Training and Development (ASTD) which has a data-bank of trained instructors.
- Non-profit, volunteer organizations such as the Literacy Volunteers of America (LVA), which provides volunteers, and volunteer training and tutoring materials.
- Secondary Schools—primary providers of adult basic education programs that focus on basic and remedial skills training.
- Public funding sources at federal/state levels underwrite employer training and act as a delivery agent for programs, such as the U.S. Department of Education National Workplace Literacy Grants program, and Job Training Partnership Act (JTPA) programs.

B **Instructor Selection** Selection of the instructors is of vital importance. Although a curriculum may be well designed and developed, it can be a failure if not implemented successfully in the training environment. In selecting instructors, the workforce literacy specialist should:

- Identify qualifications for and characteristics of a "good" instructor:
 - experience with and sensitive to the adult learner
 - good communication and organizational skills
 - flexible
 - well-rounded knowledge base rather than narrow educational focus (although some courses may require instructor expertise in a particular area, i.e., electronic technician training)
- Produce written objectives and criteria for instructor selection so all candidates are aware of expectations
- Estimate number of instructors or volunteers needed based on class size and number of classes offered
- Evaluate classroom instruction vs. computer-based training experience
- Consider team training experience such as essential skills educator coupled with a technical trainer

Other questions to consider when selecting instructors are included in Appendix. A2.10-2.11.

C **Staff development** includes not only initial training but also the continuing professional education needs of the instructors. Volunteers need to know about adult education philosophy, procedures, and practices, as well as ongoing supervision and support. Both informal and planned activities can provide opportunities for networking and support, affirmation of shared goals, and professional growth in areas of content, method and practice. Some suggestions for monthly or even bi-weekly staff meetings are included here:

- sessions to parallel the kinds of learning environments and interactions the instructors are expected to practice with learners
- topics to address include—brainstorming and questioning techniques; selecting and using materials; managing individual differences in a group setting
- sessions conducted for 1/2 to 1 day
- forums for sharing new ideas gained from formal courses or conferences

An effective educational program depends on qualified, sensitive instructors. Nurturing staff and volunteers will strengthen the program (Soifer, et al, 1990).

D. Facilities Another major decision in the allocation and commitments of resources is that of facilities. Should in-house or off-site space be utilized? A decision to conduct training on-site at the company will require a larger commitment on the part of the client (Greenberg & Beilinson (Eds.), 1989). In either case, classrooms used for work context programs should be located at an attractive, comfortable, and permanent site which is not reminiscent of a school classroom for children (Dunn-Rankin & Beil, 1989; Nurss & Chase, 1989). Community college classrooms and labs are ideally suited for this activity, yet the start up cost to the institution is larger if this option is selected. Facility considerations must also be taken into account when planning individual, assessment sessions. Rooms must be large enough to accommodate space between people; well lighted and quiet, and acoustically sound to facilitate giving directions and answering questions.

A facilities checklist includes:

- In-house or off-site?
- Space available or attainable?
- Costs and materials to make learning area simulate a work area (if necessary or desired)?
- Facilities available for a flexible or changing class schedule?

E. Costing An important role of the workforce literacy specialist in the design phase of program development is "costing," the process of identifying and evaluating costs/benefits vs. pricing and resources of various alternative solutions within a program. Essential skills training for the workforce often requires a considerable initial expenditure. Diane Kangisser of MATRICES Consultants, exhorts managers to "Remember [that] investing in the workforce is crucial to future business development, productivity and ultimately, company profitability."

Costing is a time consuming process. Enough time must be allocated to accomplish the various duties within the task of costing. Several costing methods are illustrated in Appendix A2.12 - 2.16. Be cautious about recommending spending shortcuts. Though initially helpful, shortcuts may have negative implications for the overall effectiveness of a program (Greenberg & Bellinson, (Eds.), 1989).

Start up costs include:

- Administrative overhead
- Needs assessment—A large cost factor, especially if time consuming and expensive job-task analyses or literacy audit procedures are requested
- Curriculum development
- Design of learning site—Facilities' costs may include remodeling as well as work-place simulation materials
- Purchase of equipment and materials—including computers, VCR/video and print materials
- Recruitment—design and publication of brochures and flyers
- Individual employee assessment—including design of job-specific instruments as well as purchase of standardized instruments
- Training for trainers—workshop leaders, materials
- Evaluation materials—design, distribution, and analysis

Ongoing costs include:

- Instructor salaries/travel reimbursements
- Employee wages for release time
- Salary for staff coordinator
- Overhead cost per class for facilities usage
- Materials replacement

F. **Contract Negotiation** Contractual agreements are needed between all partners. These agreements delineate the responsibilities and tasks of everyone involved in a project. Each contract is unique, but all such contracts are based on the same development principles. After the initial meetings with the client, a proposal is written which outlines work to be completed. A formal contract is written after the proposal is accepted, which details the work (i.e., an assessment, a course, or a program). If additional work is requested by the client, such as an involved evaluation report or curriculum revisions, an addendum to the contract is written and signed. A sample proposal and contract are included in Appendix A2.17 - 2.25.

In summary, resource allocation is a time-consuming and detail-oriented process. Following is a checklist which identifies major decision points during the project.

In the design phase:

- Set priorities for program with client
- Determine services accomplished in-house vs. outside on the part of both client and educational provider
- Identify nature of each partnership
- Plan structure of participation between groups
- Consider instructor and staff training needs
- Propose facilities options
- Gather information on equipment purchase
- Consider time as resource to be managed
- Gather cost data, including bids and estimates from suppliers and partners

In the development phase:

- Develop allocation plans in full detail
- Sign primary contract; addendae may be added to the contract at a later date should additional work be necessary
- Schedule interactions between partners
- Write final contracts between partners
- Interview instructor candidates
- Select instructors
- Oversee the training of instructors and volunteers
- Plan professional development activities
- Select site

In the implementation phase:

- Specify personnel and material resources in the contract
- Partners complete assigned tasks
- Learners evaluate training
- Evaluate volunteers
- Instructors and learners evaluate materials
- Assess appropriateness of facilities
- Check for discrepancies as work proceeds; if necessary make budget or strategy adjustments.

(5) Administration Program administration in this model refers to the processes that support implementation of a successful essential skills training program. These include:

- Program evaluation
- Database management
- Recruitment and retention strategies
- Support services
- Legal/ethical issues

The importance of these areas cannot be overemphasized. Without a consistent recruitment and retention effort, even the most well-designed classes will have little impact. Without long and short term goals set with the help of a trained counselor, even the most motivated learner may flounder. Without careful consideration of the legal or ethical issues surrounding literacy testing and confidentiality policies, even the most well-intentioned employers may find themselves faced with a lawsuit.

Workforce literacy specialists should consider each of these areas as part of the overall administration of any essential skills training program.

A. Program Evaluation Both formative and summative evaluations are used. Formative evaluation, which is information gathered at intervals during the program's implementation, is used for monitoring and guiding on-going program changes (Deshler, 1984). At the completion of the program, a summative evaluation instrument is used to gather information from participants in the program.

Development of the instruments may be done in-house, perhaps with the help of an advisory committee, or by an outside consultant. Literature suggests that several instruments be customized for specific participants, i.e. one for volunteers, one for supervisors, one for learners' evaluation of instruction, a learners' self-assessment of performance, and so forth.

Evaluation questions are determined by program goals and objectives. Quantitative (objective) and qualitative (subjective) data are sought. Quantitative data, such as cost effectiveness of a program or productivity improvement, is difficult to obtain for the first two or three years of a program since this requires tracking of production data (Petrini, 1991). Specific evaluation strategies are discussed in Chapter 3.

B Database Management Clearly, large amounts of data are generated during the design, development, and implementation of an essential skills program. Computerized management of this data is strongly recommended. The database stores demographic information regarding participants, assessment scores, courses and job task analysis, allowing quick access to information with the ability to develop reports and group profiles. Sample forms and documents used to collect and track data are included in the Appendix A2.26 - 2.30.

If software is chosen for this application, it should be compatible with the institution or client company hardware and software already in use. A staff person may be hired or assigned the task of input and management of data. Whatever type of system is envisioned, the purposes of maintaining the database are clear:

- Tracking individual pre/post assessment scores
- Recordkeeping to demonstrate program progress to client
- Generating facts necessary for report writing
- Analyzing patterns revealed by data for use in management of further or similar projects
- Reporting to funding sources, if applicable

C **Recruitment Strategies** Recruiting learners within the company requires marketing tactics (Caldwell Community College and Technical Institute, 1989). The workforce literacy specialist should be prepared to suggest recruitment strategies to the client. Some suggestions include:

- Assure employees that their jobs are not threatened and that the program is being offered because the company values them
- Package and present the program a part of the regular training agenda
- Include supervisors in the planning process to improve their communication with workers
- Include workers in the planning process to add their perspective
- Encourage "sales" presentations of the program to the employees by people they trust
- Avoid methods, language or attitudes which expose problems needlessly (BCEL Bulletin, 1987)

If training is voluntary, general information about upcoming programs may be disseminated through company channels, such as program notices in pay envelopes, video message monitors, posters/notices on bulletin boards, company newsletter, flyers, word-of-mouth campaigns, and supervisor encouragement.

One example of a recruitment strategy is "what's-in-it-for-me." In South Carolina, a partnership of poultry companies designed a literacy skills program, named it the "Career Enhancement Program," and planned the entire recruitment drive to appeal to the employees' desire to stay employed and advance in the workplace (Darazsdi & May, 1989, Merlin, 1990). Other program titles include "Fundamental Skills," "Functional Skills," "Technology Readiness," "Skilling Up," "Alliance for Effective Education," and "Manufacturing Education" (Mills, 1991).

Incentives offer a positive and effective way to recruit (Nurss, 1989). Often the opportunity to participate in a basic skills training program is incentive itself. Learning in an environment different from the traditional school classroom, participants may find success for the first time.

Aside from personal enrichment, other incentives for successfully completing a program are certificates of achievement, letters in personnel files, "graduation" luncheons with management, job promotions or better work assignments, and pay increases or bonuses.

D **Retention Issues** Issues or decisions affecting whether or not a learner attends class regularly and completes the entire course pertain to retention. Training should be accessible to workers, for both location and time. Conducting training wholly or partially on company time demonstrates the organization's commitment to its employees and eases pressures related to child care and other life commitments that working adults face. Courses may be scheduled as open-entry, open-exit. Instruction is designed to allow learners to come and go to classes at their own discretion and pace—as long as work is completed in a specified period of time. Computer-based learning programs utilize this method almost exclusively.

Another management decision is whether to make essential skills programs voluntary or mandatory. Some companies may target workers who need training but do not single them out. Instead, the entire work group is required to attend a specific training program. Still other companies may elect a negative incentive: employees who refuse training are not retained.

The training site may also affect retention. The environment should be just as appealing as locations for other company training programs. The more the essential skills program is viewed as part of the organization's overall education and training effort, the less stigma will be attached to participants. Additionally, the space should be adaptable to large group discussions as well as individual study. Basic furniture needs include tables and chairs that can be moved into various groupings as well as shelves for materials.

Many experts maintain that the more effort taken to create an inviting and enriched learning environments, the greater an employee's motivation will be to learn.

E **Support Services** Additional services, such as child care, transportation, and employee counseling can further contribute to a program's success. Employee counseling may be conducted for a number of purposes, including:

- To provide workers with a path to obtain career-portable skills. AT&T's Alliance for Employee Growth and Development Inc. group is providing both career and educational counseling as part of its retraining program for dislocated workers (Gordon, 1991).
- To facilitate learner goal setting. In this type of counseling, employees are encouraged to develop realistic and attainable learning goals and, ideally, to envision some long term educational goals (Sarmiento & Kay, 1990).
- To enhance class performance. One-to-one tutoring and extra encouragement can give a boost of confidence to low self-esteem.
- To provide an opportunity for personal or cultural adjustment. According to Department of Labor statistics, women, minorities, and immigrants will account for over 80 percent of the net additions to the labor force between now and the year 2000 (Semerad, 1987). These workers will require counseling, either to help with personal problems and insecurities or to help develop life coping skills. This is especially true for those who are disadvantaged (Duggan, 1985).

Other services that are helpful include diagnostic screening for learning differences; health care screening, such as eye testing ; financial counseling assistance; and child care programs.

Responsibility for specific support services should be assigned to and shared by the company and the educational provider. For example, the employer may already have access to some services, such as an Employee Assistance Plan (EAP); the college may be well-equipped to provide education and career counseling.

F **Legal and Ethical Issues** The workforce literacy specialist should be prepared to discuss certain legal aspects of employee basic skills testing and training, if only to produce a level of awareness. The Uniform Guidelines on Employee Selection Procedures (Guidelines), adopted by the Equal Opportunity Commission in 1978 (US Equal Opportunity commission, et al.), were an outgrowth of Title VII of the 1964 Equal Employment Opportunity Act. The Guidelines were designed to protect individuals from employment discrimination. The Guidelines have served as the focal point for many court decisions on employee testing and training policies.

The effects of the Guidelines on essential skills programs may be summarized as follows:

- Literacy tests are perfectly legitimate if they are used solely for training purposes (Goddard, 1987)
- Any test must be professionally validated (BCEL, 1988)
- Employers cannot give reading tests as a condition of hiring unless they can prove that the test relates specifically to the types of reading done on the job (Park, 1984)

Another legal concern is the decision to conduct training on-time or off-time. If training is solely concerned with the client's operations, the client may be legally required to conduct training on company time. This is also true if the training is required as a condition of continued employment (Mitchell, 1991).

A review of selected legal considerations is outlined in Appendix A2.32 - A2.45.

Ethics can be a function of making decisions that balance competing demands (Kirrane, 1990). Business ethics is described as a systematic approach to managing values and conflicts. Workforce literacy specialists need to develop conflict resolution skills such as active listening, questioning techniques and problem solving strategies.

The ethical issue which is most pertinent in terms of workplace program design is that of **confidentiality**. The literacy audit and individualized assessment process reveals the skill level of employees. Some with low scores may have particular concerns about job security; therefore, confidentiality is critical.

A confidentiality policy generally stipulates that copies of an employee's assessment results, course work, or individual records are available only to the employee and to project staff members who have a need to see them. Essential skills training staff and client management staff are equally bound by the confidentiality policy. Most often a company policy statement is drafted, posted for employees to see, and discussed in program information meetings. A sample is provided in Appendix A2.31.

Successful essential skills training programs are as diverse as the business and educational partners involved in them. Some clear commonalities include management support and involvement from the company and the institution, as well as constant communication and flexibility among all partners. Management skills are essential to each component of a workplace basics program. From the design of internal and external marketing strategies to the implementation of an instructional objective, the workforce literacy specialist must guide the process with an attitude of adaptability and optimism. With this in mind, carefully designed, developed and implemented programs can produce dividends far beyond expectations.

Key Points to Remember

Summary of the Design Phase:

- Communicate to client the institution's strengths as an essential skills service provider
- Demonstrate to client knowledge of program development process, including track record
- Present needs assessment options, cost and probable outcomes
- Identify program goals
- Conduct needs assessment and compile data
- Present results, conclusions to client
- Construct learning outcomes based on conclusions
- Discuss educational planning with client
- Identify and negotiate with partners, such as consultants and volunteer organizations
- Gather costing data and consider funding sources
- Present strategic plans and options to client
- Sign contract with client

Summary of the Development Phase:

- Hire and train instructors
- Customize/purchase instructional materials
- Construct/purchase evaluation materials
- Identify/develop training site
- Develop database management system
- Develop recruitment and retention strategies, support services

Summary of Implementation Phase:

- Conduct training with ongoing revision where possible
- Collect learner, instructor and client management feedback
- Input and track information in database
- Evaluate program

SOME MARKETABLE QUOTES ABOUT ADULT LITERACY

"... those with better basic skills--defined as the ability to read, write, communicate, and compute--do better in school, at work and in other key areas of their lives. They are more likely to ... work more hours, earn higher wages, be more productive workers, and avoid bearing children out of wedlock. Conversely, those who are deficient in basic skills are more likely to be school dropouts, teenage parents, jobless, welfare dependent, and involved in crime."

Gordon Berlin and Andrew Sum, Toward a More Perfect Union: Basic Skills, Poor Families, And Our Economic Future, Ford Foundation, New York, NY, 1988, pp. 1-2.

"The popular assumption that there is a single acceptable and permanent standard of literacy is false. Each passing decade has witnessed a 'trading up' in the definition of literacy. . . At the end of World War II, a fourth-grade education was considered sufficient. By that measure, 95 percent of today's job applicants would be literate."

Leonard Lund and E. Patrick McGuire, Literacy in the Work Force, The Conference Board, New York, NY, 1990, p. 9.

"A person is literate when he [or she] has acquired the essential knowledge and skills which enable him [or her] to engage in all those activities in which literacy is required for effective functioning in his group or community . . ."

Ramsey Selden, Education, "Fourth Report of the National Council on Education Research," Washington, D.C., NIE, 1978-79, p. 32.

"At Southwestern Bell . . . the personnel department had to process 15,000 application forms just to come up with 3,700 applicants for the hiring test. And, only 800 of those managed to pass the 85-question entry-level exam."

Bill Richards, "Wanting Workers," The Wall Street Journal, February 9, 1990.

From: Karen Mills, Associate Dean of Instruction, Rio Salado Community College

MARKETABLE QUOTES ABOUT ADULT LITERACY (Cont.)

Job Skills Deficits Posing Difficulty for Employers (N = 163 Responses to a 1,600 Company Survey)

<u>Skills Area</u>	<u>All Industries</u>	<u>Percent of Companies</u>	
		<u>Manufacturing</u>	<u>Service</u>
Reading	16.0%	17.2%	16.0%
Basic Mathematics	20.2	17.2	23.4
Written Communication	22.7	21.9	24.5
Oral Communication	14.7	6.3	21.3
Computer Capability	10.4	9.4	11.7

Leonard Lund and E. Patrick McGuire, Literacy in the Work Force, The Conference Board, New York, NY 1990, p. 12.

"Only 8 percent of our front-line workers receive any formal training and this is usually limited to orientation for new hires or short courses on team building or safety. . . High performance work organizations are replacing mass production in the world's best companies. . . Workers are asked to use judgement and make decisions rather than follow by rote, cumbersome procedures spelled out in detail. . . The status quo is not a choice. We cannot remain a high wage/low skill nation. Either America will do whatever is necessary to create high performance work organizations and high skill levels needed to sustain them, or the country will continue to slide toward low skills and the low pay that goes with them."

Bill Brock, Ira C. Magaziner, and Ray Marshall, America's Choice: High Skills or Low Wages! The Report of the Commission on the Skills of the American Workforce, National Center on Education and the Economy, Rochester, NY, June, 1990, pp. 4-8.

BUSINESS AND INDUSTRY QUESTIONNAIRE

Please fill in to the best of your ability. Answer with percentages if you do not know exact numbers. Answer DO NOT KNOW if you do not have an estimate at all.

Name of Company/Organization _____

Address _____
 _____ ZIP _____

Phone # _____

Person Competing Survey _____
 Title _____

1. How many different adults 16 and over do you have in your employ or in your membership each year? _____
2. How many of these employees/members do not speak English well?

3. Do you require a written test for employment/membership/promotion?
 _____ Yes If yes, continue to question #4.
 _____ No If no, proceed to question #7.
4. How many potential members/employees have obvious basic skill difficulties with this written test the first time they take it? _____
5. How many potential members/employees must take this test a second time?
 _____ third time? _____
6. If you find that an employee needs help with basic skills, do you refer him to a service provider in the community? If so, what is the name(s)?

7. How many of your employees/members have difficulty filling out forms or reading company/group literature? _____
8. In your opinion, if basic skills instruction were easily available, would your employee/members be interested?
 _____ Yes If yes, proceed to question #10.
 _____ No If no, continue to question #9.

BUSINESS AND INDUSTRY QUESTIONNAIRE

9. Which of the following might your employees/members perceive as barriers to participation in adult education training programs?

_____ time/day services offered _____ lack of awareness of service
 _____ fees or material costs _____ stigma of illiteracy
 _____ location of services _____ child care
 _____ transportation _____ other, please specify

10. Does or did your business/group provide basic skills services of any kind? If yes, please describe.

11. Do you believe that your employees/members could benefit from basic skills classes?

_____ Yes

_____ No

If no, why not? _____

12. Do you believe that adequate basic skills training services are available in our community?

13. Would you be supportive of an employee who admitted a need for basic skills training services?

_____ Yes

_____ No

If no, why not? _____

BUSINESS AND INDUSTRY QUESTIONNAIRE

14. If you could provide basic skills training services on your premises with nominal charges you as an employer or group, would you be interested in learning more about how to set up such a service?

_____ Yes

_____ No

If yes, under what circumstances would you be willing to provide in-house basic skills training services?

If no, why would you not be interested in an in-house basic skills training service?

Thank you for helping us by filling out this questionnaire.

Adapted from: Talan, C. S. (1987). Business and Industry Questionnaire. In Upgrading Basic Skills for the workplace (pp. 7-6 - 6-8). Univeristy Park, PA: Penn State University.

INITIAL NEEDS ASSESSMENT

The educational design of a program is affected by the goals that are emphasized.

Be prepared to discuss the following items when initially meeting with the client:

1. What is the primary reason program should exist?

And what results are sought?
2. How should the program make its contribution to achieving organization objectives?
3. Whose needs should program serve? i.e. management, learner, department.
4. What contributions should program make in helping individuals achieve career goals?
5. What products/services should program offer?
6. What contribution should program make to reducing costs or increasing profits in organization?
7. What relationship should exist between basic skills and other learning experiences in the company?

SOURCE: Rothwell, W.J. and Brandenburg, D.C., (1990).
The Workplace Literacy Primer, Amherst, MA:
HRD Press.

POSSIBLE PROGRAM GOALS

(To be discussed during needs assessment meetings)

The following are goals most often cited by companies that explore offering basic skills training. These are from a 1989 survey conducted by Rothwell and Brandenburg, and appear in order of importance.

1. Improve response to technological change
2. Increase work output
3. Improve organizational competitiveness
4. Reduce accidents/improve safety
5. Reduce production time
6. Improve customer relations
7. Increase pool of promotable employees
8. Promote social well being of employees
9. Reduce training time
10. Practice organizational responsibility
11. Contribute to community economic development

SOURCE: Rothwell, W.J. and Brandenburg, D.C., (1990).
The Workplace Literacy Primer, Amherst, MA:
HRD Press.

The educational design of a program is affected by the goals that are emphasized. Promoting social well being of employees, practicing organizational responsibility, and contributing to community economic development could indicate the need to offer general literacy programs. The other goals indicate developing job-specific programs.

ESSENTIAL SKILLS TRAINING PROGRAMS GUIDELINES FOR TIME FRAME DEVELOPMENT

1. Initial contact with the employer may present some very time consuming problems. It is possible that it will take weeks or even months to iron out all of the relevant details before the program actually begins. Companies may need time to study options that you present.
2. Presentations to employees/managers will take approximately 1 hour/presentation. You must consider the total number of people to be addressed, number of departments, shifts, presentation room seating capacity, etc. In large companies with two or more shifts, it may take up to one week just to make initial presentations on the program.
3. There are some basic rules that will allow you to estimate how long the JTA will take. You will interview between 25% and 33% of the employees/job class participating in the program. Interviews will take approximately 30 min./person with an additional 30 min. needed for record keeping.(i.e., information to be input into the database). Document analysis will take approx. 15 min./document and you may collect anywhere from 5 - 20 documents/work area.
4. Observation time will be approximately equal to the time spent on the interview process. Additional documents may be collected during this stage so time for analysis must also be considered.
5. A working database can be put together in 2-3 days depending on the amount of information to be collected, forms to be developed, program selected for use and the speed of the programmer. An extremely valuable person at this stage of the game is a good data entry specialist with fast, accurate typing skills. They will save you both time and money.
6. Assessment is very time consuming. You can only test so many people comfortably per session. (Approx. 20 - 25 employees per test administrator). Each test will have time limits and additional administrative time for collating, scoring, etc. It is wise to be liberal on your estimates of time for this task. Developmental time for workplace specific instruments is difficult to determine. It will depend on the expertise of the specialist developing the instruments.
7. Counseling or advising employees of results will most likely average 30 - 45 minutes/employee depending on how many instruments are administered, how the person performed, and the number and types of recommendations made.

8. Time frames for course work will be easier to define. Most classes will be between 24 and 40 hours. The number of days and classes per week will be decided with management input in most cases.
9. Final reports are dependent on how much information must be gathered and how well this information is organized. This task is not very time consuming, if you have done a good job in putting together the data base and are able to effectively retrieve the information. Presentations to both managers and employees will be approximately one hour in length. Again you must consider the number of employees, shifts, room size, etc.
10. It is important to realize there are dozens of unforeseen factors that influence a time line in any given environment. For this reason, it is a good idea not to be too restrictive when developing this information. Stay flexible and be liberal in your assessment.

Guidelines for Oral Interview of Staff

1. What kinds of teaching experience have you had with reading, writing, English, math, computers?
2. Are you teaching now? Would it be possible for me to observe your class?
3. What does whole language teaching mean to you? What do you know about the writing process?
4. What does the definition of reading as an interactive process mean to you?
5. How is questioning related to instruction?
6. What group experiences have you had as a learner or a teacher?
7. Why would small group teaching be a good arrangement for teaching adults?
8. With what kinds of professional decision-making experiences have you been involved? What was your role? What was the outcome?
9. What kinds of community involvement have you had?
10. How much reading do you do? What kinds?
11. What professional journals do you read regularly? What conferences have you attended recently?
12. What part of the job announcement attracted you? What do you think you need to be able to fill the requirements of this position?
13. What do you consider your strengths? What do you have to offer to this position?
14. What do you consider your weaknesses? What kinds of difficulties do you anticipate?
15. How do you feel about keeping records? Are you conscientious in doing so?
16. How do you feel about regular attendance by learners in an adult education program? What can a teacher do about this?

17. What expertise and experience do you have in advising or counseling adults?
18. How do you feel about working with different kinds of people who have some ownership in this program: union leaders, management personnel, school administrators, community resource people?
19. What do you hope to be doing ten years from now? How are language and language learning involved in your career plans in adult education? What other areas do you plan to pursue?

FROM:

Soifer, R., Irwin, M., Crumrine, M., Klonzakai, E., Simmons, B. and Young, D. (1990). The Complete Theory to Practice Handbook of Adult Literacy. New York: Teachers College Press, p. 141.

DETERMINATION SHEET COST PER CLASS

	WITH AIDE	WITHOUT AIDE
A. <u>Instructional Hours</u> . Multiply instructor hourly salary (average \$12.50 - 25.00 per hour) by 48 (hours per semester)	<u>\$ 600.</u>	<u>\$ 600.</u>
B. <u>Preparation Time</u> . Multiply instructor hourly salary (\$12.50) times 24 (hours to prepare).		
* NOTE: for every two (2) hours of teaching time, teachers need one (1) hour of preparation time.	<u>300.</u>	<u>300.</u>
C. <u>Curriculum Development</u> . This figure is variable depending on program scope.	<u>0.</u>	<u>0.</u>
D. <u>Initial Student Assessment</u> . Multiply instructor hourly salary by four (4) or some other flat rate.	<u>50.</u>	<u>50.</u>
E. <u>Fringe Benefits</u> . Determine the actual cost of benefits. (This figure is usually about 8 1/2% of instructor salary in 80 hours.)	<u>113.73</u>	<u>85.</u>
F. <u>Instructional Materials</u> . Determine the actual cost of materials to be used. (This is usually about \$20 per student.) \$20 times 10 students.	<u>200.</u>	<u>200.</u>
G. <u>Evaluation and Reporting</u> . Multiply instructor hourly salary by four (4 x 12.50) or determined number of hours.	<u>50.</u>	<u>50.</u>
H. <u>Teacher Aides</u> . Multiply hourly salary by number of hours.	<u>338.</u>	<u>0.</u>
I. <u>Administrative Costs</u> . Add lines A, B, D, G, and H. Multiply total by .20 (20%) - .80 (80%).	<u>267.60</u>	<u>200.</u>
Total	<u>\$1,919.33</u>	<u>\$1,440.</u>

NOTE: These figures are approximate.

Adapted from: Askov, et al. (1989). Upgrading Basic Skills in the Workplace. University Park: Pennsylvania State Univeristy.

COST ANALYSIS FOR BASIC SKILLS CLASSES

Management: Appendix

- * Assessment is \$20 per person
Note: Math and Reading are one assessment, English is a second assessment; therefore, final total is \$40 per person.
- * Minimum class size is 15
(a less than class-size of \$35 per is charged for each one less than 15)
- * Classes are 1 credit (\$24 per credit/per class)
Note: This will increase to \$26 per credit hour starting July 1, 1991
- * 1 credit classes are generally 14 - 16 clock hours
- * The cost of textbooks/workbooks varies from class to class with an approximate average of \$15 - 20
Note: The texts are commercially published and prices are subject to change.

Summary of Costs/EXAMPLES

1) 80 employees assessed	\$3200.00	(one-time cost)
22 registered (1 class/RDG 086)	\$ 528.00	(These costs will occur for every class
	761.20	the employee takes)
	\$1289.20	(\$58.60 + assessment per person, or \$4.19 per person per class/instructional clock hour)
OR		
2) 80 employees assessed	\$3200.00	(one-time cost)
10 registered (1 class/RDG 086)	\$ 240.00	
5 (LCS) @ \$35 each	175.00	
books	346.00	\$5.44 per clock hour per person
	\$ 761.00	

From: Karen Mills, Associate Dean of Instruction, Rio Salado Community College

JOB AID: COMPUTING THE COSTS OF INTERNAL TRAINING PROGRAMS

This job aid, adapted with permission from a model used by Zenger-Miller, Inc., is based on more than 10 years of experience producing training programs. It assumes a quality product or service which does not use extensive instructional technology (films, videos, CAI, interactive media). If such technology is anticipated, those costs should be added as part of Section VII and in the Totals section.

In using this job aid, first you need to:

- *determine the number of classroom hours you expect to complete in the course /program, and
- *know the hourly rates paid to all of those working on the course/program.

Now, proceed by filling in the blank boxes.

I. Conducting the Needs Analysis

Plan 12 hours for every one hour of classroom instruction to complete a proper needs analysis.

Activities should include:

- *Developing and validating a needs assessment tool.
- *Administering the assessment tool to potential participants and their managers.
- *Determining course content based on the data gathered.

$$\boxed{12 \text{ hours}} \times \boxed{} \times \boxed{} = \boxed{\$ (1)}$$

Course hours Staff hourly rate Cost

II. Creating the Instructional Design

Plan 60 hours* for every one hour of classroom instructional design. Activities should include:

- *Selecting content.
- *Determining learning objectives.
- *Developing units.
- *Pilot testing materials.
- *Evaluating results.
- *Making necessary revisions.

$$\boxed{60 \text{ hours}} \times \boxed{} \times \boxed{} = \boxed{\$ (2)}$$

Course hours Staff hourly rate Cost

*Some instructional designers would argue with this figure. Other estimates range from a low of 12 hours for each hour of classroom instruction to even more than the Zenger-Miller estimates.

III. Producing Instructor Materials

An easy-to-use instructor's guide requires four pages of guidelines for every one hour the instructor is in front of the class.

$$\boxed{4 \text{ pages}} \times \boxed{\text{Course hours}} = \underline{\hspace{2cm}}$$

Total number of pages

Plan one hour per page for writing, editing, and proofreading leader's guide.

$$\boxed{1 \text{ hour}} \times \boxed{\text{Total \# of pages from above}} \times \boxed{\text{Staff hourly rate}} = \boxed{\$ \text{ (3a) Cost}}$$

Plan for 30 minutes per page for word processing and layout.

$$\boxed{.5 \text{ hours}} \times \boxed{\text{Total \# of pages from above}} \times \boxed{\text{Staff hourly rate}} = \boxed{\$ \text{ (3b) Cost}}$$

IV. Training Instructors to Deliver the Program

Plan three hours for every one hour of classroom instruction to develop and conduct a workshop for instructors.

Activities would include:

- *Designing and testing the workshop.
- *Conducting instructor workshop.
- *Providing feedback and support to instructors.

$$\boxed{3 \text{ hours}} \times \boxed{\text{Course hours}} \times \boxed{\text{Staff hourly rate}} = \boxed{\$ \text{ (4) Cost}}$$

V. Producing Participants' Workbooks

Plan for three pages of workbook material for every one hour of classroom instruction.

$$\boxed{3 \text{ pages}} \times \boxed{\text{Course hours}} = \boxed{\text{Total \# of workbook pages}}$$

Plan for nine hours of writing time for each page of workbook material.

$$\boxed{9 \text{ hours}} \times \boxed{\text{Total \# of pages from above}} \times \boxed{\text{Staff hourly rate}} = \boxed{\$ \text{ (5a) Cost}}$$

Plan for \$16 - \$20 per page for professional proofreaders.

$$\boxed{\text{Total \# of pages from above}} \times \boxed{\text{Proofreader's rate}} = \boxed{\$ \text{ (5b) Cost}}$$

Plan for \$75 - \$100 per page for graphics and layout.

$$\boxed{\text{Total \# of pages from above}} \times \boxed{\text{Graphic artist rate}} = \boxed{\$ \text{ (5c) Cost}}$$

Plan for \$15 - \$20 per page for typesetting.

$$\boxed{} \times \boxed{} = \$ \boxed{} \text{ (5d)}$$

Total # of pages from above Typesetter's rate Cost

Plan for \$.38 per page for printing, assuming a volume of around 500.

$$\boxed{.38 \text{ cents}} \times \boxed{} = \$ \boxed{} \text{ (5e)}$$

Total # of pages from above # of copies needed Cost

Plan to spend \$8.00 per participant for package binders.

$$\boxed{\$8.00} \times \boxed{} = \$ \boxed{} \text{ (5f)}$$

\$8.00 # of participants Cost

VI. Evaluating Program Results

Plan for six hours for every one hour of classroom instruction to complete a proper evaluation of course/program results. Activities would include:

- *Determining concrete evaluation objectives that focus on behavior change.
- *Developing and testing the evaluation instrument(s).
- *Administering the evaluation to participants and their managers.
- *Analyzing data and interpreting results.
- *Reporting conclusions.

$$\boxed{6 \text{ hours}} \times \boxed{} \times \boxed{} = \$ \boxed{} \text{ (6)}$$

Course hours Staff hourly rate Cost

VII. Related Expenses

In addition to the major categories above, developing a course or program today requires many additional expenses. Below are some of the typical expenses, but you should add those relevant to your situation.

- *Messenger service, phone, mailings _____
- *Travel for staff and consultants _____
- *Supplies, software, equipment to produce printed material _____
- *Video, film, CAI production costs _____
- _____
- _____
- _____

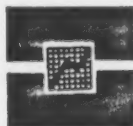
Total related costs = _____ (7)

VII. Total Costs for Developing an Internal Training Program

Category	Cost
1. Conducting the needs analysis _____	(1)
2. Creating the instructional design _____	(2)
3. Producing instructor materials _____	(3a)
_____	(3b)
4. Training instructors to deliver course _____	(4)
5. Producing participants' workbooks _____	(5a)
_____	(5b)
_____	(5c)
_____	(5d)
_____	(5e)
_____	(5f)
6. Evaluating program results _____	(6)
7. Related expenses _____	(7)
Grand Total _____	

Source: ASTD Infoline

Proposal for Chemical Operations Department



**BUSINESS AND
PROFESSIONAL
INSTITUTE**
DALLAS COUNTY COMMUNITY
COLLEGE DISTRICT

Dr. Glen I. Bounds
Provost

May 24, 1990

Chemical Operations Department

Dallas, Texas 752

Dear :

Enclosed you will find a proposal to address the basic skills issues within the chemical operations department. This information has been prepared based on our discussion of Thursday, May 10, 1990 with et al and other members of your staff. I have included a description of services which should give you a basic overview of the program pieces. You will also find a brief synopsis of items to be covered in employee meetings.

The fee includes 3 employee assessment sessions as well as 2 basic skills training programs. Billing will take place as program components are completed.

Once you have had a chance to review the proposal please call me with any questions. I would like to schedule a brief meeting with you to discuss the details—especially the presentation to your employees. Would you be available on May 30?

We will also need to determine schedules for the individual interpretation sessions and JTA interviews and observations.

We look forward to working with you in providing a quality program that will enhance the skills of your employees.

Sincerely,

Senior Account Executive

/df
Enclosure

RICHLAND COLLEGE OFFICE
12800 ABRAMS ROAD
DALLAS, TEXAS 75243-2199
(214) 238-6376

**PROPOSAL FOR
CHEMICAL OPERATIONS DEPARTMENT**

Submitted by:

Senior Account Executive
Business and Professional Institute
Dallas County Community College District
Richland Office

Date: May 24, 1990

Purpose. The purpose of this proposal is to set forth terms that will facilitate Basic Skills Assessment Testing/Interpretation, a modified Job Task Analysis (JTA) and Basic Language Training classes or other appropriate training classes for the employees of (referred to as Company).

Program Quality. The Institute will employ qualified personnel to provide services in accordance with state regulations and policies of the Institute.

Instructional Materials and Supplies. Basic skills assessment testing instruments will be provided by the Institute. Job specific materials i.e. sample specs, etc. will be provided by the Company, as well as texts and materials associated with the specific training classes.

Instructional Schedule. Schedule for Basic Skills Training classes will be mutually agreed between Company and Institute after assessment/interpretation and modified JTA has been completed.

Facilities. The assessment testing/interpretation, JTA interviews and Basic Skills Training courses (as applicable) will be conducted at ...

Registration. A representative of the Institute will register the participants at the beginning of each class. A maximum of 10 participants may be enrolled in each Basic Language Training class or other appropriate courses.

Fee. The fee for the services covered by this proposal shall not exceed \$.

Billing Procedure. The Institute will invoice the Company upon the completion of the assessment/interpretation and JTA and again at the beginning of the specific training programs. Invoice is due and payable net 30 days.

* The terms and conditions of this proposal are valid for 30 days from the above date.

Description of Services.

The Institute will perform the following services for Chemical Operations Department:

Basic Skills Assessment Testing and Interpretation will be conducted for approximately 60 employees in the areas of reading comprehension, writing skills, vocabulary, spelling and math concepts. Following the testing procedure a personal interpretation session will be conducted with each of the employees to inform them of their current skill levels. They will also be informed of the types of training available to assist them with personal basic skills improvement.

Assessment testing consists of the following testing instruments:

- Wide Range Achievement Test (WRAT)-measures math and spelling levels.
- Nelson Comprehension Test-measures reading comprehension and vocabulary.
- Job Related Writing Assessment-measures writing skill levels.

The complete set of tests will be administered to each group of employees in 2 hour blocks of time. The scoring of the instruments is done at Richland College. The written test is scored by specially trained personnel in the Counseling division and/or Special Services. Employee interpretation sessions will be scheduled two weeks following the testing dates. A schedule of employee appointment slots of 30-45 minutes per employee will be arranged by the Company at times mutually convenient to Richland and Company personnel.

Job Task Analysis:

The purpose of the JTA is to provide job specific criteria for referencing skill level needs. The results of the analysis will serve as data to be incorporated into the basic skills training programs. The task-related proficiencies will be correlated with the results of the general skills testing to give a broad view of the employee's current skill level.

Outcomes of the JTA include:

- a collection of work specific documents
- specific examples of problems which might relate to reading and writing
- knowledge of how work information flows
- knowledge of contributing problems i.e.
 - a) poorly written work orders
 - b) general communication disorders
- site vocabulary

The JTA coordinator will interview 25-30% of the employee population regarding the various aspects of their job. Time will also be allotted for observation of pertinent job site skills.

Basic Skills Training classes will be provided to any employee assessed based on the test results. The classes will be taught using a variety of approaches and techniques and may include a multi sensory approach to learning. Job-specific data and skills will be incorporated into the curriculum.

SUGGESTIONS FOR THE ORIENTATION MEETING PRIOR TO ASSESSMENT

Details:

Information needed:

- How many people will we talk to?
- How many meetings? i.e. exempt/non exempt
- What are the job levels?
- What departments are involved?

Suggested Considerations:

Optimal Times

- Hold orientations during shift meetings or at time most convenient for the workplace (It is preferable not to meet at the end of shifts).
- Allow 15-20 minutes at the end of meeting for a general question and answer period.
- Allow 10 minutes more for presenters to be there to talk with people privately if they wish.

Physical Layout

- Have audience as close to speaker as possible
- Have as few barriers as possible
- Keep informal but controlled
- Make sure lighting is good
- Make sure everyone can hear
- Have audio-visual equipment available
- Hold meetings in a place where people are comfortable

Attendance

- Have someone from a management attend to introduce those conducting assessments, to explain connection to work and to demonstrate management's commitment to the project
- Have any educational liaison attend
- Have program coordinator attend to answer questions

Suggested Format

- Introduction from manager (manager and those responsible for orientation should meet beforehand to prepare)
- Explanation of what assessment is
- Rationale for assessment—Give summary of JTA; ask for comments, corrections
- Reassurance—How assessments will be used, who will receive results, how results will be presented
- Confidentiality—Explanation of the company policy regarding assessments

Question and Answer Period

- Open to questions and/or comments

AGREEMENT WITH DALLAS COUNTY COMMUNITY COLLEGE DISTRICT FOR SERVICES THROUGH ITS BUSINESS AND PROFESSIONAL INSTITUTE

The Dallas County Community College District, a Texas political subdivision of higher education, through its Business and Professional Institute, (referred to as "Institute"), located at 1402 Corinth Street, Dallas, Texas, and (referred to as "Company" enter this agreement as follows:

1. Purpose. The Institute shall provide for the employees of the Company eight, non-credit classes or 96 hours of training and services as described in Attachment "A".
2. Instructional Quality. The Institute will employ qualified personnel to conduct the classes in accordance with the state regulations and policies of the Institute.
3. Instructional Material and Supplies. Materials and supplies will be provided as described in Attachment "A".
4. Fee. The total contract fee for the classes will be a maximum of \$ per hour x 96 hours = \$.

The following services will be requested by the Company and delivered by the Institute only on an as needed basis. The schedule mutually determined by both parties.

TESTING	\$10 Per Person
ANALYSIS/INTERPRETATION	\$25 Per Person
CUSTOMIZATION/DEVELOPMENT	\$38 Per Hour
Not to exceed 48 hours x	\$38 = \$1,824
CLASSES	\$50 Per Hour

NOTE: A certain percentage of the people assessed could be learning disabled. The cost of the in-depth testing necessary to confirm and identify the particular learning disability is not included in this proposal.

5. Term. This agreement shall begin on December 31, 1990, and conclude on June 14, 1991.

6. Amendment. This agreement may be changed in writing by mutual consent of the parties herein.

7. Cancellation. The Company may cancel this agreement in accordance with Attachment "A".

8. Notice. Any notice provided under this contract shall be delivered by mail or personal service to the parties named at the address specified below.

Company Representative

Account Executive

Business and Professional
Institute

Executed in two original counterparts:

Company

Dallas County Community
College District

By: _____
Authorized Representative

By: _____
Authorized Representative

Date: _____

Date: _____

ATTACHMENT A

1. Schedule of Services. The classes will begin March 4, 1991, and conclude the week of May 23, 1991. The schedule will be as follows:

<u>Class</u>	<u>Dates</u>	<u>Time</u>	<u>Days</u>
Math	3/4/91 - 5/23/91	7:00 - 8:00 a.m.	Monday - Thurs.
Language/ Reading Skills	3/4/91 - 5/23/91	2:30 - 3:30 p.m.	Monday - Thurs.

The Company may determine any combination of classes from Math, Reading and ESL.

The number of total hours should not exceed 96 hours, but may be less according to the variety selected.

2. Student Materials. The Company will purchase the student textbooks, tapes, and any student materials such as notebooks, pens or pencils for class notes, at a price of approximately \$30 per person.

3. Classroom Supplies. The Company will provide necessary audio/visual equipment including slide-projector, overhead, or VCR. The Company will also provide necessary supplies for the instructors use, such as marker board, blackboard, or flipcharts with markers or chalk and erasers.

4. Instructional Materials. The Institute will provide necessary handouts and exercises for the students.

5. Facilities. The classes will be conducted at the Company's facilities.

6. Billing Procedure. The Institute will invoice the Company for the classes at the beginning of each class. The Invoices are due and payable net 30 days.

7. Force Majeure. The Institute or the Company shall not be responsible for any delays in performance of this agreement due to strikes, riots, acts of God, unavailability of instructors or materials, war, governmental laws or regulations. If a delay occurs, the Institute will make a good faith effort to reschedule the service.

8. Copying. No portion of the services provided herein shall be copied or reproduced in any form without the written consent of the Institute.

9. Video Taping. No portion of any course or training program provided by the Institute may be video taped.

10. Cancellation by Company. If the Company cancels any or all of the agreement at any time after execution of the agreement, an administrative fee will be assessed in the amount of 10 percent of the unfulfilled amount of the agreement. In any case of cancellation by the Company, the Company will also pay the Institute for supplies and services rendered in fulfilling the agreement up to the time written notice of cancellation is received by the Institute. The Institute will provide supporting documentation of changes to the Company upon written notice of cancellation.

11. Assignment. The Company shall not assign this agreement without written consent of the Institute.

12. Hold Harmless. The Company shall hold the Institute whole and harmless against any and all claims for damages, cost, and expenses and liability issues to person or property that may arise out of or be occasioned by this agreement or any of its activities or from any act or omission of any employee or invitee of Company.

13. Assessment. The employees will be assessed on Math Skills utilizing a paper and pencil testing instrument. Test administration should not exceed one and one-half hours. The Institute will provide test administrators in a sufficient number to insure the integrity of the results.

14. Interpretation. The assessment scores will be provided only to the individual participant. Interpretation of the results and the meaning of the scores will be accomplished through individual sessions. Interpretation will be performed by testing/counseling professionals of the Institute. Each participant may receive up to 20 minutes of interpretation time. ESL students must have a verbal assessment with a _____
_____ ESL advisor prior to enrollment in the ESL classes.

15. Program Development.. The Institute, working through _____, will utilize the assessment scores to develop a program to upgrade and enhance the skills of the employees who wish to participate.

16. Non-Credit Students. Students will receive Continuing Education Units for each class completed. Scores should be available to each individual student within 1-2 weeks after the last class day. Non-Credit students are not eligible for student I.D.'s, parking permits, or the use of the _____ campus facilities such as the pool, weight room, etc. These above offerings are reserved for credit students only.

17. Venue. Exclusive venue for this agreement shall be in Dallas County, Texas.

GUIDELINES FOR DEVELOPING A DATABASE

The database is used to store information on participants, courses, assessments and parts of the job task analysis. The database should allow quick access to information and the ability to develop reports, group profiles and participant demographics. The following are areas you may want included in your database. Ultimately, management will define many of the variables needed in the working program.

A. Demographic information on participants

1. Name and ID number.
2. Job title and job grade.
3. Age, sex, and race (for affirmative action reports only)
4. Department and supervisor
5. Phone number and mail station
6. Shift
7. Years experience
8. Plant location
9. Exempt/non-exempt

B. Assessment Report

1. Dates of assessments
2. Name or type of assessment
3. Scores (Average and breakdown)
4. Proficiency level desired

C. Course information

1. Name of the course and ID codes
2. Start and completion dates
3. Completion Codes

examples:	CA	Credit: Assessment
	NA	No Credit: Assessment
	CC	Credit: Course
	ID	Incomplete: Dropped
	IA	Incomplete: Attendance
	OG	Ongoing

4. Date code was entered
5. Comments section

These particular files and categories would allow you to gather and print information on participants, groups, courses, assessments, and employee status in the program. The information in the database is **EXTREMELY** confidential and should never be viewed by managers, supervisors or other employees. When a report is needed, a request will be sent to the database coordinator whose primary responsibility is the database and maintaining its confidential status. How and what information is to be communicated should be determined during initial meetings with management. Support and clear lines of communication at this level are essential.

**JOB ENHANCEMENT PILOT PROGRAM
INTERVIEW DATA FORM**

NAME _____ DATE / /
TIME _____ POSITION S M T
SEX M F ETHNIC BLACK CAUCASIAN
GROUP HISPANIC ASIAN
 OTHER _____

**JOB ENHANCEMENT PILOT PROGRAM
INTERVIEW DATA FORM**

NAME _____ DATE / /
TIME _____ POSITION S M T
SEX M F ETHNIC BLACK CAUCASIAN
GROUP HISPANIC ASIAN
 OTHER _____

**JOB ENHANCEMENT PILOT PROGRAM
INTERVIEW DATA FORM**

NAME _____ DATE / /
TIME _____ POSITION S M T
SEX M F ETHNIC BLACK CAUCASIAN
GROUP HISPANIC ASIAN
 OTHER _____

**JOB ENHANCEMENT PILOT PROGRAM
INTERVIEW DATA FORM**

NAME _____ DATE / /
TIME _____ POSITION S M T
SEX M F ETHNIC BLACK CAUCASIAN
GROUP HISPANIC ASIAN
 OTHER _____

DATA REPORT **I.E.T. PROGRAM VOLUNTEERS**

NAME _____	EMPL.# _____
JOB TITLE _____	JOB GRADE _____
AGE _____ SEX _____	YR'S EXP. _____
SUPERVISOR _____	SHIFT # _____
COST CENTER _____	PHONE # _____
MAIL STATION _____	

ADVISEMENT SUMMARY

<u>READING</u>	RAW SCORE	GRADE LEVEL
NELSON COMPREHENSION	_____	_____
<u>SPELLING</u>	RAW SCORE	GRADE LEVEL
WRAT-R	_____	_____
DARE	C _____ S _____ O _____ R _____	

<u>WRITTEN EXPRESSION</u>	RAW SCORE	%ILES	STD. SCORE
TOWL	_____	_____	_____
THEMATIC MATURITY	_____	_____	_____
CONTEXTUAL VOCAB.	_____	_____	_____

<u>HANDWRITING</u>		
CHES	RATE	QUALITY
	_____	_____

RECOMMENDATIONS

JOB ENHANCEMENT PILOT PROGRAM DATA SHEET

LAST NAME _____ FIRST NAME _____ EMP.ID# _____

LOCATION _____ COST CENTER _____ SHIFT _____ PHONE _____

JOB CLASS _____ WORK AREA _____ ETHNICITY _____ SEX _____

INTERVIEWED _____ INTERVIEW TIME _____ EXEMPT _____

COURSE RECOMMENDATION _____ REQUIRED EXIT PROFICIENCY _____

COURSE ID _____ COMPLETION CODE _____ COMPLETION DATE _____

READING AVERAGE _____

ALPHANUMERIC _____
 COMPREHENSION _____
 FOLLOWING DIRECTIONS _____
 VOCABULARY _____
 CODES/SYMBOLS/ABBR. _____
 CHARTS _____
 COMPUTER _____

WRITING AVERAGE _____

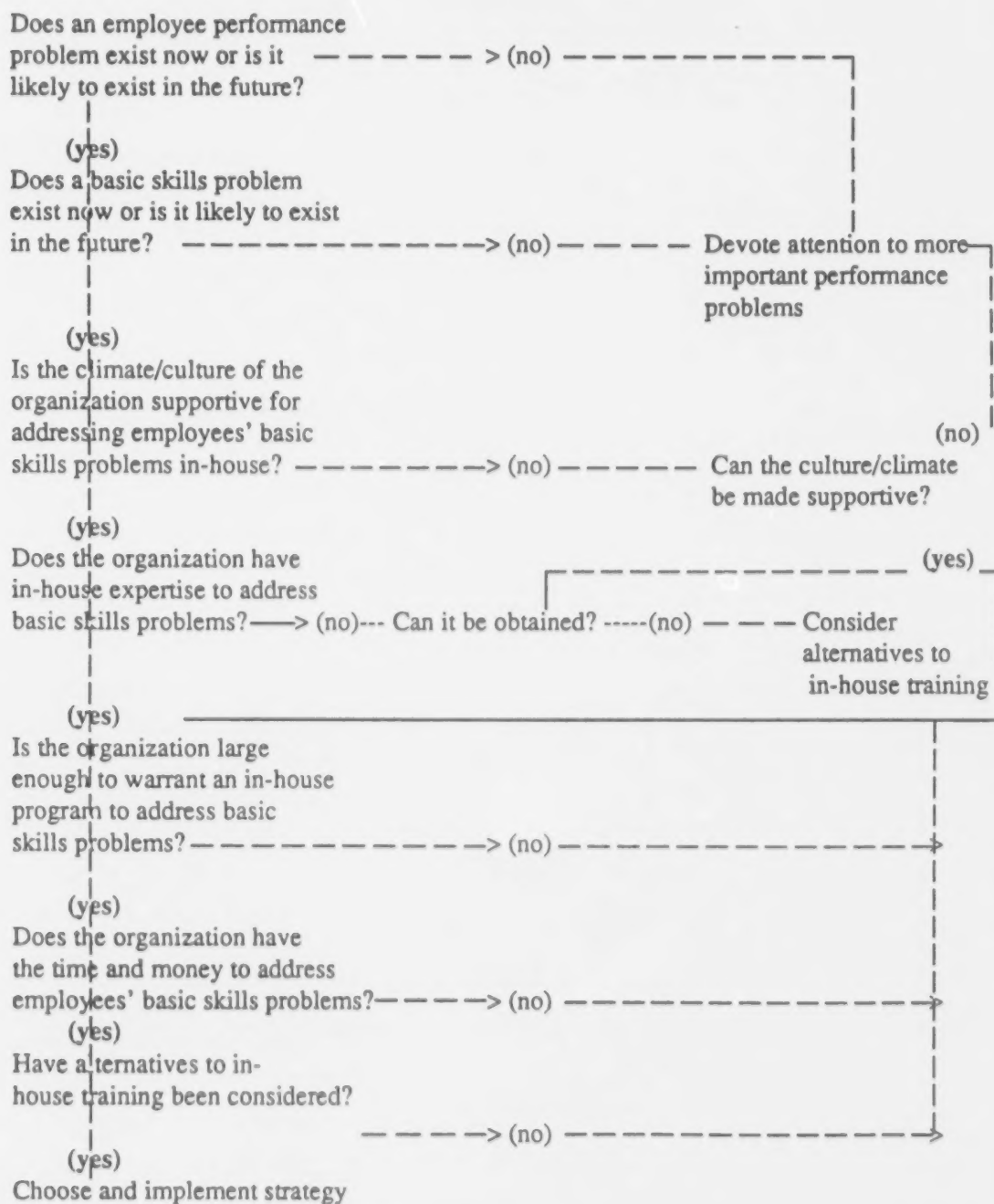
SPELLING _____
 GRAMMAR _____
 PUNCTUATION _____
 STRUCTURE _____
 CAPITALIZATION _____
 CLARITY _____
 ORGANIZATION _____

MATH AVERAGE _____

BASIC MATH _____
 DECIMALS _____
 FRACTIONS _____
 CONVERSIONS _____
 ALGEBRA _____
 TRIGONOMETRY _____
 CALCULUS _____
 STATISTICS _____

A MODEL FOR IDENTIFYING APPROPRIATE PERFORMANCE

Improvement Strategies for Employees Basic Skills Program



SOURCE: Rothwell, Dr. W. J., Brandenburg, Dr. D. C. (1990).
The Workplace Literacy Primer. Amherst, MA: Human Resource Development Press.

CONFIDENTIALITY POLICY (example)

(Company Name) has a long history of vigorous protection of the confidentiality of employees records. The confidentiality policy means that copies of any individual employee's specific assessment results, course work or individual records are available only to the employee and to the project staff who have a need to see them. Individuals involved in coordinating, assessing, advising and/or teaching within the program are expected to adhere to these standards of confidentiality.

I. ASSESSMENTS

The contents of any employees assessments are accessible only to the employee and the project staff.

Assessment results are used to advise an employee about what skills he/she has and how to strengthen or develop new skills. At no time should assessment results be used to determine whether an employee is appropriate for a particular job. At no time will specific examples or scores from assessments be shared with individuals outside of the program.

II. INDIVIDUAL EMPLOYEE RECORDS

In an instructional situation, the instructor may share course objectives with the supervisor, but **NOT** samples of the employee's classroom work or exercises. This action is designed to separate and establish a distinction between the employee's classroom participation and any evaluation of job performance. Course attendance records are always available to a supervisor.

If the supervisor, manager, or an employee committee representative wishes to see a copy of an employee record of assessment and/or course work, the record may be released to the employee who may then choose to share the information if he/she chooses to do so.

Any requests from supervisors, employee committee representatives, personnel administrators or others for meeting to discuss employee records should be referred to the program coordinator or to the program manager.

III. GROUP PROFILES

Group profiles from the database for specific divisions or departments are available upon request. A profile can summarize group participation in courses and assessments, and document skill mastery for any group without revealing any specific employees performance or other identifiers. When group profiles include less than 6 employees, these results will be combined with a similar group so as not to identify specific employee performance.

SELECTED LEGAL CONSIDERATIONS
REGARDING EMPLOYEE LITERACY
AND
APTITUDE TESTING

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I. LEGAL LANDSCAPE - STANDARDIZED TESTS

A. TITLE VII OF THE CIVIL RIGHTS ACT OF 1964

The basic federal statute prohibiting discrimination in employment in the United States is Title VII of the Civil Rights Act of 1964, as amended. 42 U.S.C.A. §§ 2000e - 2000e-17 (West 1981).

1. The operative provision of this statute makes it unlawful for any employer having fifteen (15) or more employees to:
 - a. to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, or national origin; or
 - b. to limit, segregate, or classify his employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, sex, or national origin. 42 U.S.C.A. § 2000e-2(a)(West 1981).
2. Two distinct theories for proving a violation of Title VII have evolved through judicial decisions:
 - a. The disparate treatment model
 - (1) Under this theory, a plaintiff is required to show that the defendant intentionally discriminated against him or her based on one of the specified criteria. Because it is unlikely that direct evidence of discrimination (e.g., employer admissions or "smoking gun documents") routinely will be available, a plaintiff may present a triable issue of fact by establishing a prima facie case circumstantially. In order to establish a prima facie case, a plaintiff need show:
 - (a) That he or she is a member of the protected class;
 - (b) That he or she was qualified for the position;

- (c) That the employer refused to hire, promote, demoted or discharged the individual; and
- (d) That the employer either continued to advertise for the position (in the case of applicants) or otherwise placed a non-protected class member in the position.

McDonnell Douglas Corp. v. Green, 411 U.S. 792 (1973).

- (2) The prima facie case is not intended as a rigid formulation and is subject to adjustment for different situations, such as reductions in force.
- (3) In order to rebut this prima facie case, an employer must come forward and articulate a legitimate non-discriminatory reason for its action. Texas Dep't of Community Affairs v. Burdine, 450 U.S. 248 (1981); Watson v. Fort Worth Bank and Trust, 108 S. Ct. 2777 (1988); Price Waterhouse v. Hopkins, 109 S. Ct. 1775 (1989).
- (4) The employee then has the burden of proving that the employer's articulated reason is merely "pretext" for the real reason for its actions, i.e., that the employer's reason is "not worthy of credence." The employee bears the burden of proof of discrimination at all times during the litigation. Wards Cove Packing Co. v. Atonio, 109 S. Ct. 2115 (1989).

b. Disparate Impact Model

- (1) Proof of intent of discrimination is not required in all cases. If an employer has utilized or relied upon a facially neutral criterion, or an employment policy practice, or device such as a standardized test, a plaintiff may attempt to show that a particular employment policy or practice has resulted in an "adverse impact" on the minority group or groups of which plaintiff is a member. Griggs v. Duke Power Co., 401 U.S. 424 (1971); See Teamsters v. U.S., 431 U.S. 324, 335 n. 15 (1977).

- (2) In a disparate impact case, the employer must justify the identified policy, practice, or device on grounds of business necessity. Under current law, the employer need only come forward and produce evidence of a business justification or "business necessity" for its policy or practice, but the burden of persuasion remains with the plaintiff who must prove that the adverse action was taken because of his race, color, sex, etc. Wards Cove Packing Co. v. Atonio, 109 S. Ct. 2115 (1989).
3. Title VII recognizes that employers have long used various forms of tests to assist in determining an individual's qualifications for a particular position. Such tests are permissible provided that they accurately measure a person's abilities to perform the job.
 - a. Section 703(h) of Title VII provides in relevant part:

"Notwithstanding any other provision of this chapter, . . . it shall not be an unlawful employment practice for an employer to give and to act upon the results of any professionally developed ability test provided that such test, its administration or action upon the results is not designed, intended or used to discriminate because of race, color, religion, sex or national origin." 42 U.S.C.A. § 2000e-2(h).
 - b. Several key requirements are imposed by Title VII on an employer's use of so-called "standardized tests":
 - (1) The test must be "professionally developed."
 - (2) The test cannot be designed, intended, or used to discriminate.
 - (3) The test must be "validated."
 - c. "Job-relatedness." The U.S. Supreme Court, and the lower federal courts, have imposed additional requirements on such tests.
 - (1) The test must not have the effect of discriminating based on race, color, religion, sex, or national origin. Griggs v. Duke Power Co., 401 U.S. 424 (1971).

- (2) The test must be shown to have been "validated" through professional validation studies. Albemarle Paper Co. v. Moody, 422 U.S. 405 (1975).
- d. The Equal Employment Opportunity Commission (EEOC) has issued guidelines setting forth the methods it deems acceptable for validating tests. See Uniform Guidelines on Employee Selection Procedures (1978), codified at 29 C.F.R. part 1607 (1990).
- (1) The purposes of the validation requirement are to assure that the test (i) accurately predicts what it claims; (ii) is "job-related," i.e., measures a person's ability to perform a specific job; and (iii) does not exclude or disqualify a disproportionate number of protected minorities or women.
 - (2) If a test is found to fail one or more of these requirements, the employer is entitled to show that its use is justified by "business necessity."
- e. Generally three methods of test validation are recognized. Neither the courts nor the EEOC have expressed a preferred method.
- (1) "Criterion" or "empirical" validation examines the correlation between comparative success on the test and comparative success on some measure of job performance. There are two types:
 - (a) Predictive study - the sample group employees take the test before they take the job and are selected without regard to their test scores. The employee's later job performance is compared to their test scores.
 - (b) Concurrent study - the test is administered to encumbered employees and their current job performance is evaluated against their test scores.
 - (2) Content validation occurs when the test closely approximates the tasks to be performed on the job (example: a typing test).
 - (3) Construct validation examines the significant relationship between the test and the identification of some trait required in the job performance.

f. RESPONSES TO VALIDATION

- (1) Courts have struggled with the concept of validation, and many tests, even well-known standardized tests, have failed to survive court challenges.
 - (a) Wonderlic Personnel Test and the Bennett Mechanical Comprehension Test in Griggs v. Duke Power Co., 401 U.S. 424.
 - (b) Revised Beta Examination and the Wonderlic Personnel Test (Forms A & B) in Albermarle Paper Co. v. Moody, 422 U.S. 405.
 - (c) N.Y. Police Department's candidate selection exam in Guardians Ass'n of New York City v. Civil Serv., 630 F.2d 79 (2d Cir. 1980).
- (2) "Race-Norming" - Approximately 10 years ago, in response to the typically lower scores of minority applicants, the Department of Labor began encouraging state employment agencies to use "within-group score conversion" in connection with the General Aptitude Test Battery, a test used in some 30 states.
 - (a) Scores of minority applicants were only compared to those of the applicants in their racial group.
 - (b) Approximately five years ago the Department of Labor, in response to the Justice Department's request to halt race norming, stopped encouraging it.
 - (c) Recently, the Labor Department announced that it had decided to suspend the administration of the test. See Daily Lab. Rep. (BNA), May 28, 1991 at A-15.
- (3) For an interesting discussion by the U.S. Supreme Court regarding statistics in the context of the selection of grand jurors see Castaneda v. Partida, 430 U.S. 482 (1977).

B. FAIR LABOR STANDARDS ACT

1. The Fair Labor Standards Act of 1938 requires most employers to pay a "minimum wage" and "overtime compensation" for hours worked in excess of 40 hours in a work week.
2. Compensation for testing and training can become an issue. In providing an interpretation of hours worked as required by the Fair Labor Standards Act, the Wage-Hour Administrator has issued the following rules regarding training time:
 - a. Attendance at lectures, meetings, trainings, programs and similar activities do not constitute working time if the activities meet all of the four criteria provided below:
 - (1) attendance is outside employee's regular working hours.
 - (2) attendance is voluntary.
 - (3) the activity is not directly related to the employee's job.
 - (4) the employee does not perform any productive work during attendance. See 29 C.F.R. § 785.27 (1990).
3. The Wage-Hour Administrator defines involuntary attendance as the employer either requires attendance or leads the employee to understand or believe that her working conditions or the continuance of her employment could be adversely affected by nonattendance. 29 C.F.R. § 785.28.
4. The rules state that training is directly related to the job if it is designed to improve employee's efficiency on the job as distinguished from training her for another or new job. If the training is not designed to improve employee efficiency in the employee's present job, but instituted for the bona fide purpose of preparing for advancement or upgrading the employee to a higher skill, it is not directly related even if the activity improves the employee's skills in her current job. C.F.R. § 785.29.
5. If an employee attends an independent school, college, or trade school on her own initiative, after hours, even if the courses are job related, the time does not count as hours worked. §785.30.

6. If the employer establishes for the benefit of her employees a learning program corresponding to courses offered by an independent bona fide institution of learning, voluntary attendance by an employee outside working hours are not counted hours worked even if the courses are job related or the employer pays for them. 29 C.F.R. § 785.31.
7. Maximum Hour Exemption for Employees Receiving Remedial Education. 29 U.S.C. §207(q).
 - a. This section of the Fair Labor Standards Act exempts employers from paying overtime to employees who are in employer-sponsored remedial education classes.
 - b. 29 C.F.R. § 207(q) states that an employer can employ any employee for a period or periods of up to 10 hours in excess of the maximum hours for that workweek without compensation for overtime, if during such period, the employee is receiving remedial education that meets all of the three requirements:
 - (1) provided to employees who lack a high school diploma or educational attainment at the eighth grade level.
 - (2) designed to provide reading and other basic skills at an eighth grade level or below.
 - (3) does not include job specific training.

C. CONFIDENTIALITY AND PRIVACY

Employers have concerns regarding employee privacy and confidentiality of test scores. Employment privacy encompasses a broad spectrum of interests relating to the intrusiveness and fairness of collecting information, maintaining, using and disclosing information. In the area of testing, this could involve the collection of test scores, storing of information and disclosure to other parties. Confidentiality and privacy issues could also encompass the employer's rights to the access of information.

1. Employer Access
 - a. Generally, absent statutory restrictions, employers having a legitimate reason for requesting a test should be entitled to receive the results.

- b. Employers may request that the employee sign a consent form granting permission to the employer to obtain the test results.
2. Employee Access Statutes in many states regulate employee access to personnel files:
 - a. Minnesota:
Minn. Stat. Ann
Ch. 181.
 - b. Washington:
Wash. Rev. Code § 49.12.240.
 - c. District of Columbia:
D.C. Code Ann. § 1-632.5
(Applies to District employees).
 - d. Tennessee:
Tenn. Code Ann. § 8-50-108
(Applies to state employees).
3. Employers should use the same degree of caution in maintaining test records as they do in maintaining personnel records.
4. Disclosure to Third Persons
 - a. Invasion of Privacy - liability for public disclosure of private facts could arise for employers who unreasonably publicize confidential information about employees.
 - (1) Test results generally will be viewed as confidential information and employers should be cautious about disclosing them to parties other than the employee herself.
 - (2) The standard governing disclosure of confidential information is that the employer's business interest in disclosure should outweigh the employee's interest in keeping the scores private.
 - b. If an employer is subject to subpoena or other legal request to disclose information, she will not be liable for the disclosure.
 - c. Employers should seek out and be aware of any state statutes regarding confidentiality and disclosure of employee information.

II. COLLECTIVE BARGAINING ISSUES

A. Employers having employees who are represented by a labor organization may be confronted with unique issues concerning the design, implementation, scoring, and use of standardized tests.

1. Questions can arise regarding an employer's right to unilaterally require such tests.
2. Unions can seek to file grievances regarding various aspects of the test and to discover information regarding its content and construction.

B. DUTY TO BARGAIN

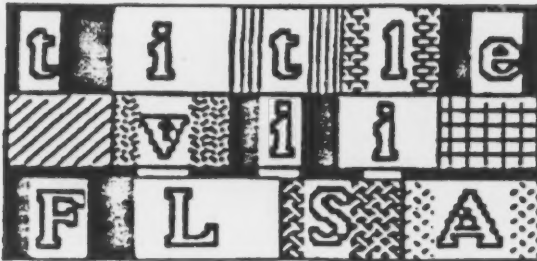
1. The National Labor Relations Act requires an employer and the recognized or certified bargaining representative of its employees to bargain in good faith with respect to wages, hours, and other terms and conditions of employment.
2. The National Labor Relations Board has held that an employer may not unilaterally engage in aptitude testing of current employees without bargaining with the union. American Gilsonite Co., 121 N.L.R.B. 1514 (1958), supplemented, 122 N.L.R.B. 1006 (1959).
3. In connection with its responsibilities to represent employees in the bargaining unit, a union may seek to challenge various aspects of a test or testing procedure.
 - a. The union may be entitled to receive information or documents concerning the tests.
 - b. The union is not entitled to test questions or answers where such disclosure would reduce the utility or validity of the test. Detroit Edison Co. v. NLRB, 440 U.S. 301 (1979).
 - c. Likewise, a union is not entitled to receive the test scores of employees without their consent. Id.

ADDITIONAL SOURCES

1. B. Schlei & P. Grossman, Employment Discrimination Law 80-161 (2d ed. 1983), American Bar Association, Section of Labor and Employment Law.
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4. B. Lerner, The War on Testing: Detroit Edison in Perspective, Personnel Psychology, Vol. 33, No. 1, p. 11 (Spring 1980).
5. W. Roskind, DECo v. NLRB. and the Consequences of Open Testing in Industry, Personnel Psychology, Vol. 33, No. 1, p. 3 (Spring 1980).
6. J. Ledvinka & C. Schoenfeldt, Legal Developments in Employment Testing: Albemarle and Beyond, Personnel Psychology, Vol. 31, No. 1 p.1 (Spring 1978).
7. P. Kilborn, "Race Norming" Tests Becomes a Fiery Issue, New York Times, May 19, 1991.

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EMPLOYERS & THE LAW OF LITERACY



In the past few months BCEL has had queries from a number of companies about certain legal aspects of employee basic skills testing and training. We turned to the American Bar Association's Task Force On Literacy for help. Our intent is to eventually publish a public service leaflet for wide distribution within the business community. Meanwhile, because many companies seeking to set up basic skills programs need guidance now, preliminary information on three questions being examined is set forth below. For their pro bono help, we thank the ABA Task Force and its researchers, law student Serina Garst, a summer intern with Baker and Hostetler, and law student Steven Lynch of the University of Virginia.

1. Under what circumstances may employers test basic skills levels of job applicants and current employees, and what restrictions, if any, apply to the form such testing may take?

The answer depends on how the test scores are used, whether the use has a discriminatory impact on a group because of race, national origin, sex, or religion: and what constitutes the basic skills. Title VII, of the Civil Rights Act of 1964 prohibits the use of discriminatory tests in making any employment decision, and while other federal laws may apply, an employer's lack of intent to discriminate is irrelevant.

Generally, all employers having at least 15 employees are governed by Title VII. Some categories of employers are exempt, such as Indian Tribes, private and tax-exempt membership clubs, and elected state officers. The federal government is not covered, though it usually held to Title VII standards.

In two landmark decisions—Griggs v. Duke Power Co. (401 U.S. 405, 1975) and Albemarle Paper Co. v. Moody (422 U.S. 405, 1975)—the United States Supreme Court set out a three-step process for determining whether a test violates Title VII.

First, if a test excludes significant numbers of a protected group, it must be scrutinized. If it doesn't impact adversely on protected groups, it may be used freely.

Second, a test that has been validated may be used even if it has an adverse impact. Validation must show a high correlation between successful test performance. In other words, the test must be job-related. The Court said in Griggs that "any test used must measure the person for the job and not the person in the abstract."

Third, even a job-related test may be discriminatory. This step examines the business necessity of the test. If an alternative test—one lacking adverse impact—can be used, it should be.

These principles have been incorporated into *Uniform Guidelines on Employee Selection Procedures* (29 C.F.R. 1607.1-1607.14, 1987) adopted by the Equal Employment Opportunity Commission, the Civil Service Commission, and the Departments of

Labor and Justice. The *Guidelines* apply to all tests used to make employment decisions. They cover the entire employee selection process and, where the process itself has no adverse impact, it is not necessary to evaluate individual components.

The *Guidelines* make it clear that tests for both current and prospective employees must be job-related and evaluate the person's ability to perform the duties and tasks of the job involved. They also set out acceptable procedures for validation.

In *Albemarle Paper Co.*, the Court endorsed the *Guidelines*' provisions stating that a test could be at a skill level higher than the position being applied for if job progression is likely within a reasonable period of time. Otherwise, employees must be tested at, or near, entry level for the position.

2. Under what circumstances may employers make participation in basic skills training programs mandatory for job applicants and current employees?

This depends upon how performance in the program affects the future employment of the individual. If success in the training program bears on decisions about hiring, retaining, promoting, or demoting, Title VII principles apply. (The training program itself must be examined for any discriminating effect.)

Note that an education level requirement may not discriminate against members of protected groups. Courts have generally not required evaluation under the *Guidelines* cited above, but they do require job-relatedness and have often overturned high-school-diploma requirements for production, maintenance, and apprentice positions where the result is discriminatory. Lower and more specifically-defined education level requirements have been approved for such

relatively low-skilled jobs. Highly-skilled and professional jobs get less scrutiny.

3. Can employers require employees to enroll in basic skills programs on their own time—i.e. outside of regular working hours? And, are employers obliged to pay for the training?

The Fair Labor Standards Act is the federal statute regulating wages and hours of certain employees (29 U.S.C. 201.-19, 1982). Employers subject to FLSA must comply with the minimum wage and maximum hours-of-work provisions, and where participation is required outside of regular working hours employers may under some circumstances have to pay overtime wages. (Categories of exempt workers include professional, executive, retail, service, transportation, and agricultural employees as defined in the Act.) Note that in addition to FLSA, state and local laws also regulate employee wages and hours.

The Wage and Hour Division of the Department of Labor has interpreted FLSA not to require employers to pay workers for time spent in training programs if four conditions are met (29 C.F.R. 785.27, 1987): (a) the programs are conducted outside regular working hours; (b) the program is not directly related to the employee's job; (c) the employee performs no productive work during such attendance; and (d) attendance is voluntary and the employee does not think his or her job or promotion potential will suffer. (Note that attendance is not considered voluntary if the employee is "given to understand or led to believe" that his or her present working conditions or continued employment would be adversely affected.)

In general, training is considered directly related if its purpose is to make the worker better at the existing job rather than capable of performing a new one. Where a program or course is developed for the bona fide purpose of preparing for advancement by upgrading the employee's skill level and is not intended to make the employee more efficient in the

present job, the training is not considered directly related even though it may incidentally improve the employee's skills for the regular job (29 C.F.R. 785.29, 1987).

Whether a job applicant or current employee must be paid for required attendance in training programs also depends upon whether the person is an employee as defined by the FLSA and by related court decisions. Note that the existence of an employer-employee relationship is determined by the facts and circumstances of the situation. Further, an agreement to remain ready to begin a job may itself be considered a state of employment.

No federal employment law requires employers to pay for or provide employee training programs. Many do, however, and deduct the cost from their taxable income as a business expense.

[Ed. Note: If an employer must pay workers for participating in off-hour programs that are directly job-related, whether participation is voluntary or mandatory, and if a directly-related program is one that enables a worker to do better on an existing job, a review of current regulations and Wage and Hour provisions would seem advisable in light of new understandings about present worker skill levels and the changing requirements of job.]

(For a copy of the *Guidelines* cited above (29 Code of Federal Regulations 900-1899, revised July 1, 1987) write to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The current price is \$10. Other publications that may be helpful are: "How to Develop Effective (and Legal) Personnel Tests." Krysten Stepke, 6 *Legal Administrator*

2805, September-October 1987; and "Courts, Psychologists, and the EEOC's Uniform Guidelines: An Analysis of Recent Trends Affecting Testing as a Means of Employee Selection." P. Jefferson Ballew 36 *Emory Law Journal*, 203-252, Winter 1987.)

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MANAGEMENT: REVIEW OF THE LITERATURE

Workforce literacy training is an investment in developing human resources. "Upgrading and retraining workers have been recognized as vital elements of human capital investment" (Warmbrod and Faddis, 1983, p. 14). For business, industry, and education, "productivity, innovation and competitiveness all depend on developing the learning capability of the workforce. Machinery and processes are transferable from company to company and country to country. But it is the application of human resources to technology and systems that provides the competitive edge" (Carnevale, Gainer and Meltzer, 1988, p.10).

Just what is this burgeoning field of workplace literacy and why are business, industry, and educators focusing energies on it? Distinguishing characteristics include the fact that workplace literacy is specific to the work setting, hence each workplace needs its own definition. In one work setting literacy may mean reading blueprints and in another it may mean figuring percentages. Writing skills are crucial in one while interpersonal skills in another (Dunn-Rankin, & Beil, 1989, p. 2).

Rothwell and Brandenburg contend that "literacy is a dynamic and multifaceted concept that varies by context" (1990, p. 6). Professional educators become involved in developing programs under these non-traditional definitions of literacy. Sticht (1987) asserts that in workplace literacy training programs the individual and his or her needs is not the major focus of concern, although critically important. The mission and goals of the business/industry or agency are the primary concerns. Helping the company achieve its goals in a cost-beneficial way becomes paramount. The expanded definition of basic skills becomes a term that must incorporate the unique needs of the client.

The scope of this review focuses on some of the administrative and management issues related to developing successful workforce literacy training programs. Managing is a task inherent in every step of a program from defining the need to designing the curriculum to evaluating the program. Training program components can be thought of as a step-by-step process with management as the thread that weaves through everything. Since community colleges and technical institutes are being called upon more frequently to provide basic skills training programs in business and industry, this review attempts to raise the awareness level about the essential elements of managing successful programs, for personnel that may be involved in them.

The materials selected for review include authoritative reports and business-directed publications that provide facts and figures to raise awareness about this multifaceted topic, as well as program development guides and case studies that provide direction on bringing services to the workplace.

Community College/Technical Institute as Educational Provider

In a recent study, *Training Partnerships: Linking Providers and Employers*, Carnevale states that "training linkages are based on employer needs; that is, an outside provider is called upon when an employer requires help in responding to its training needs" (1990, p. 5). These linkages take place with consultants, educational institutions, professional associations, the federal government and others. The point is further made that "community colleges have taken the most aggressive, directed and progressive approach to customized training and are particularly responsive to business, industry and community needs" (Ibid., p. 20). Surveys and reports prove that, "community colleges have more programs for and experience in teaching adult workers and in finding ways to be flexible to meet their needs than does almost any other kind of educational institution" (Warmbrod and Faddis, 1983, p. 17).

Traditionally college/ employer training programs have been geared toward technical and supervisory fields, but more companies are turning to community colleges and technical institutes for assistance with basic skills training needs, since they are viewed as "the second largest providers of adult basic education programs after local school districts" (Carnevale, et al., 1990, p. 20).

Warmbrod and Faddis state several elements necessary for successful training programs between community colleges and industry, including (1983, pp. 190-204):

- 1) visible commitment of top college administrators
- 2) institutional flexibility in budgeting and scheduling
- 3) communication with key industry personnel and within the college, especially to facilitate interdepartmental cooperation
- 4) staff development systems that keeps faculty up to date and technically competent instructors knowledgeable of effective adult teaching methods
- 5) ability to respond quickly to industry requests
- 6) careful and thorough planning of each effort
- 7) clearly written contracts
- 8) continuous evaluation for improvement
- 9) sharing resources among colleges within a state---especially a curriculum-sharing network

Howard concludes that industry specific training programs "must be custom-tailored to fit

the needs of the client rather than trying to fit the client into a precast format" (1986, p. 10). Customized training partnerships are not a new concept for community colleges and technical institutes. "A survey estimates that 75 percent of all community colleges provide some form of customized training for employees" (Carnevale, 1990, p. C.4). The new agenda is the delivery of customized basic skills training programs.

Resources are available, from published reports to experienced colleagues, to guide the process, but there is no better way to learn than by "just doing it."

Program Management Overview

In focusing on the nuts and bolts of program development and operation, Rothwell and Brandenburg assert "it is one thing to plan learning experiences to improve employees basic skills; it is quite another to manage these learning experiences once they have been planned. Planning means establishing direction and determining what to do and why. Managing means implementing plans over time" (1990, p. 276).

Managing a basic skills training program encompasses many activities. Some of these include: communicating with and maintaining support of organization decision-makers; establishing budgets; hiring and training staff; making facilities arrangements; scheduling the program and recruiting participants. The scope of the task is usually too big for one person; hence, attention to the minimum staffing needs suggested by the Business Council for Effective Literacy (1987, p. 13) is crucial. These include a project coordinator to direct all aspects of the program.

This person should be a company employee able to interact at all levels of the organization. The other key player is a program manager, usually assigned from the staff of the educational provider, with responsibility for the critical instructional elements of the program, in which the instructors have a key role. Philippi asserts that "A critical part of any workplace literacy program is its instructors. The best curriculum in the world is only as good as the instructor who delivers it" (1991, p. 296). She further states that combining technical training and education in the integration of job tasks and literacy skills is an emerging area and requires an instructor interested in learning something new. Criteria for instructor selection suggested by Carnevale (1990) and Philippi (1991) include:

- 1) familiarity with the psychology of learning, adult teaching methods, and experience working with adults
- 2) responsiveness to company requirements and working with company personnel (1990, pp. 7-8.)
- 3) emphasis on discussion and participant input rather than lecture

- 4) ability to foster teamwork transferrable to the job by instruction with several small groups at once
- 5) flexibility in revising instructional goals as needed (1991, p. 297)

Since potential instructors have a wide range of backgrounds and experience, training is important. This includes an orientation to the company facilities and policies and procedures which provides a common frame of reference with program participants (Ibid., p. 7-10). Another critical element is an "understanding of the philosophy and goals of functional context education in using job materials and scenarios for teaching basic skills as well as providing appropriate supplemental materials (Ibid., 1991, p. 298).

Managing the recruitment and retention of participants is a strategy not to be overlooked. Rothwell and Brandenburg suggest a three step process of recruitment which includes (1990, p. 252):

- establishing a communication program that informs prospects about the basic skills training policy
- identifying who should participate
- demonstrating why participation is worthwhile and developing ways to help learners overcome fear of failure

According to Philippi, "research demonstrates that participants who are attracted to programs and complete instruction are those who perceive course content as relevant to their needs" (1991, p. 213). Communications should "emphasize relevance of course content to improving job performance, enhancing promotability and achieving personal goals" (Ibid., p. 240).

Much of the literature cites the fact that building a coalition of support from key decision-makers is imperative for program success. "Leaders who might support a workplace basics training program need to be courted. Support from influential managers, union officials, employee representatives, and the informal leader structure is critical to successfully launching a program" (Carnevale, et al, 1988, p. 23).

Rothwell and Brandenburg maintain that even the "tactical issues" such as space, time, equipment, and scheduling are affected by the degree of management support other than the human resources department. Ways to garner support include:

- establishing advisory committees that continually review the program
- disseminating participant success stories
- linking basic skills training to strategic goals
- demonstrating improved job performance of functional context approach (Carnevale, 1990, Philippi, 1991, Rothwell, 1990)

Steps To Successful Program Development

Several practitioners and specialists have been actively working and doing research in the area of workplace basic skills programs during the past decade. Each has proposed a model of steps to follow in implementing and managing successful programs. These models are based on the literature as well as programs taking place throughout the nation. Summaries of four models suggested by the experts follow. In each model note that the recommended steps do not have to be followed sequentially, but all are important for a successful program. Sticht and Mikulecky, (1984, 1987) considered by many to be pioneers in the field of workplace basics training, purport a model based on the systematic approach of the Instructional Systems Design (ISD) model.

- Step 1 Analysis - determining the need for and content of training, which includes determining the basic skill requirements of jobs
- Step 2 Design - simulating job requirements as much as possible, which facilitates rapid transfer of learning
- Step 3 Development - organizing testing and learning activities into a system
- Step 4 Implementation - curriculum materials are tried out and revisions made after being allowed to operate for some time
- Step 5 Evaluation - at a minimum show through testing or demonstration to what extent skill change is evident (Sticht & Mikulecky, 1984, pp. 34-38).

These steps are carried out under four principles of program development that include:

- 1) maintaining an orientation to the company's mission; 2) providing training within a functional context; 3) scheduling to maximize active learning time on task; 4) using a competency-based, mastery learning approach (1984, p.32)

This basic model has been elaborated on time and again.

Based on a two year research project, sponsored by the Department of Labor, the American Society for Training and Development has presented an applied approach model for success in workplace basics programs (Carnevale, et al., 1990). This applied approach is a

multi-stage process involving investigation, advocacy and specialized curriculum design. There are eight steps in this "Blueprint for Success" with Steps One to Three noted as "particularly useful for public - sector providers of training in gaining an understanding of what kind of preparation and skills it takes to sell a program to management. Steps Four through Eight show how to establish instruction that meets the rigorous standards of employers" (Ibid., p. 5).

Step 1 Identify Job Changes or Problems Requiring Basic Skills Training

- form a company-wide advisory committee
- document employee deficiencies
- identify target population for training

Step 2 Build Management/Union Support

Step 3 Present Strategy/Action Plan for approval

- determine if delivery by in-house or external providers

Step 4 Perform Task Analysis

- determine the basic skills required for job performance

Step 5 Design the Curriculum

- design performance-based, functional context instruction
- design data collection system and evaluation system
- determine budget

Step 6 Develop the program

- select instructional format and techniques
- determine facilities and equipment requirements

Step 7 Implement the Program

- select and train instructional staff
- run a pilot test (optional)

Step 8 Evaluate and monitor

- begin ongoing evaluation
- advise and consult with management on status (Ibid., p. 9)

Studies by Philippi show that workplace/functional context programs "achieve noticeable results quickly when the focus is on using skills application to perform (critical) job tasks." Establishing programs requires careful planning, and seven essential activities are included in her model (1991, pp. 32-41):

Step 1 Identify critical tasks

- establish advisory committee
- discuss projected technology changes

Step 2 Conduct Literacy Task Analysis

- what basic skills are required

Step 3 Develop Functional Context Curriculum

Step 4 Conduct Needs Assessment

- readability study on workplace documents
- CLOZE test used for screening

Step 5 Schedule recruitment and instruction

- program name
- information meeting with employees

Step 6 Deliver instruction

- facilities
- support services
- instructor training

Step 7 Evaluate Outcomes

- data collection instruments
- reports RE: analysis and recommendations

The final model presented was developed by staff at the Penn State Institute for the Study of Adult Literacy. This model should be used as a basis for understanding the decision-making points in each phase of program development (Askov et al, 1989).

Step 1 Create awareness in the community

Step 2 Develop readiness in the organization

Step 3 Situational analysis

- organizational need, climate and resources

Step 4 Negotiated intervention

- content
- target participants
- commitment of resources
- program structure and schedule
- needs assessment

Step 5 Program planning

- establish links with management
- goals and objectives
- instructional delivery and evaluation

Step 6 Program Implementation and Evaluation

The models presented serve as guidelines for tasks to be included in program planning and management. Similar issues are addressed in each of the models with careful communication and planning being a common thread.

Selected Case Studies

For a number of years large corporations have been providing educational opportunities for their employees, usually for adult basic education courses offered away from the worksite. Then companies started providing in-house remedial education programs focusing on academic skills not previously mastered. The current state-of-the-art today is providing customized, job-specific, basic skills training which makes an impact on job performance. As discussed previously, job-specific programs require much time and effort to develop but also are proven the most effective. A few successful programs are described here, all of which are partnerships with community colleges. These descriptions are examples of how the theories of educators and trainers translate into practice.

Texas Instruments, Inc. (TI) in their Austin, Texas, plant knew in 1983 that they needed to train employees in basic skills education in order for them to move from a job as an assembler to a job as a technician, specifically a test operator position. This is an example of a high technology employer having a different definition of literacy, and how basic skills, which constitute the minimum skill requirements for the job, will vary in different industries. The employees needed mathematics, written and oral communication skills at a high school graduate level, problem solving, electronics (touching on the basic laws of physics) at a first-year technical school level, English as a Second Language (ESL) for the large Asian and Hispanic populations in the work force, and General Educational Development (GED) for those who lacked a high school diploma.

Austin Community College (ACC) was approached by TI to offer the program. The college provided all assessments and classroom instruction in both basic skills prerequisites and the technical courses at its campus. If enrollment was low, workers could begin on a self-paced basis at the TI Learning Center until the number of employees was sufficient to make up a class at ACC.

This was later changed, so that all courses in the Test Operators Program were held on site, immediately after the shift, in two hour sessions. Training policy at TI hold that courses for workers moving into new positions were held on employee time; courses related to current job performance were held on company time. All costs in the Test Operators Program were fully paid by TI.

At TI, promotional opportunities are closely tied to program completion. Employees were aware of this and the decision whether or not to participate is left up to the employee, regardless of the assessment results. ACC administers the Flannigan Industrial Series which tests for math level and a number of related technical skill areas. Results are shown to workers in individual counseling sessions; confidentiality is assured by release of individual results only if a consent form is signed by the employee.

Instructors are provided by ACC and must be state certified and have a bachelor's degree in education or related field and experience working with adults. There is no systematic evaluation method used. However, ACC requests feedback from supervisors on employee performance after training to determine if there is improved work performance and attitude (Fields, Hull, & Sechler, pp. 29-31., 1987).

In 1989, Vanis reported on a program, which has been recognized by the Business Council for Effective Literacy as a national model for community college and industry partnerships. Digital Equipment Corporation in Phoenix, AZ partnered with Glendale Community College and Rio Salado Community College to provide literacy instruction at the Phoenix plant. Each partner contributed uniquely to the joint effort. Digital's commitment to the project was reflected in their commitment of resources. They contributed assessment, instructional, and supply costs as well as classroom space, tuition reimbursement monies, and the commitment of an on-call program manager.

The colleges collaboratively made a matching investment of resources which included the assignment of administrative staff, full-time and part-time faculty, a curriculum design specialist and an assessment specialist. The institution also committed additional monies to support the research by Glendale on literacy needs of industry; to bring in national experts and resource people; and to pilot the instructional delivery approach.

The colleges found it necessary to identify one focal person from each partner and utilize others as resource people. They developed and agreed upon a contextual definition of literacy which was expanded beyond reading, writing and computing to include critical thinking and problem solving skills, oral communications skills, interpersonal skills, and basic computer literacy. Faculty and staff from both colleges met with management and training staff from Digital to determine the scope and direction of the program. A decision was made to develop the program in three phases: conduct a needs assessment, develop curriculums, and provide for instructional delivery.

Assessment methods included interviews, materials collection and analysis (using the FORCAST Readability Index and the FRY Readability Graph), and skills assessment. The emphasis of the assessment was to involve a wide range of employees to assure a broad base of knowledge.

This data was utilized to set instructional priorities for the curriculums. Six curriculums were designed to include all skills listed as necessary in the expanded literacy definition and integrate use of job-related materials into all courses. Curriculum was developed in modules to assure ease of delivery through short term and flexible scheduling of classes. A commitment was made to provide the English as a Second Language classes on company time to show management support for the importance of the program. One outcome of the linkage between industry and the colleges was the agreement to a long term commitment for the continuance of the program (Vanis, 1989, pp. 4-11.).

The third case study is also an example of partnerships used to accomplish the goals of workplace basic skills programs. In this case it was a partnership between Rock Valley College, Rockford Area Literacy Council, the English Language Study Center (ELSC) at Rockford College, and fourteen companies in Illinois.

The final report indicated that the college-agency linkage functioned well to facilitate the beginnings of English As a Second Language (ESL) classes for 106 workers at their places of employment, training of ESL tutors and instructors, and assessment testing of the entire workforce for two of the companies.

In general, the responsibilities of each partner for the task were as follows: Rock Valley College administered a state grant; the Rockford Area Literacy Council provided marketing data on community businesses and trained and placed tutors; ELSC trained a class

of nine ESL teachers for ESL workplace instruction; providing partial tuition for three teachers. In addition, ELSC began a teacher training survey course, a testing program, and developed a custom designed, computer-assisted ESL curriculum for Chrysler Corporation, one of the companies involved in the project.

Overall assessment of the program concluded that the first criteria must be to meet the goals of company management; that standardized test results may be one indicator of success, but that ultimately, it is the success or failure of the partnership relationship which determines the success or failure of the program. Other observations which may be helpful to other workplace programs revolve around cost. Since companies want a demonstrable return on their investment quickly, they are prone to making a short term commitment; this presents a problem for program administrators. Early results are easy to see but later in the process, employers must be convinced that time put in will have positive long-term results on productivity (Frost & Frazier, 1988, pp. 3-14).

Conclusion

Much of the literature alludes to the fact that no one group— schools/colleges, adult education centers, volunteer organizations, business/industry or the government can solve the adult basic skills problem alone. It must be a joint effort. Partnerships between community colleges and technical institutes and industry are one such collaboration.

These entities are viewed as flexible and open to industry training needs. They must be prepared to meet the challenges of basic skills training in the workforce. Managing the partnerships is a critical task. Studies reveal that key elements in a management system for workforce programs include specifics, such as supervision of instructional staff, participant recruitment and retention, maintenance of records, preparation of reports for management, and facilities and scheduling. Management skills are also utilized in the critical process of assessment and evaluation as well as instruction.

Management should be viewed as a dynamic principle that guides the overall structure of workplace training programs. Recommendations from the literature include the suggestion that education entities take an even more proactive role in establishing basic skills training programs with industry. The various models of business/education collaboration that appear in the literature should prove invaluable to college planning program development strategies.

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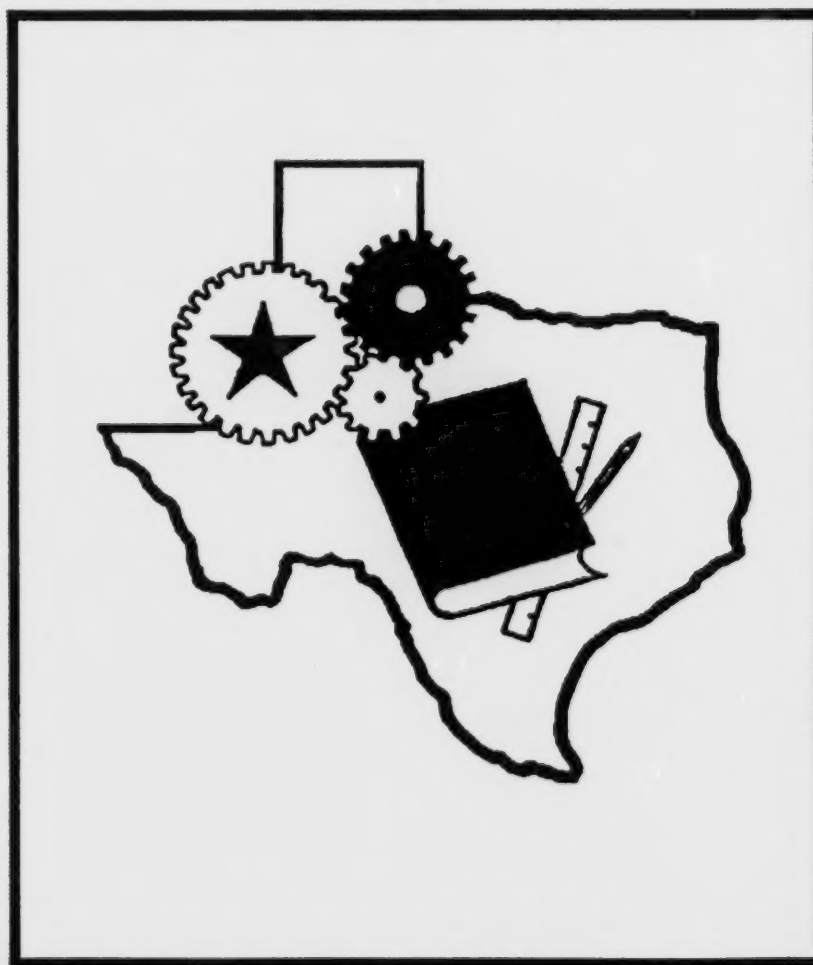
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Assessment and Evaluation

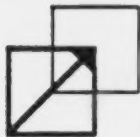


Assessment and Evaluation: Overview

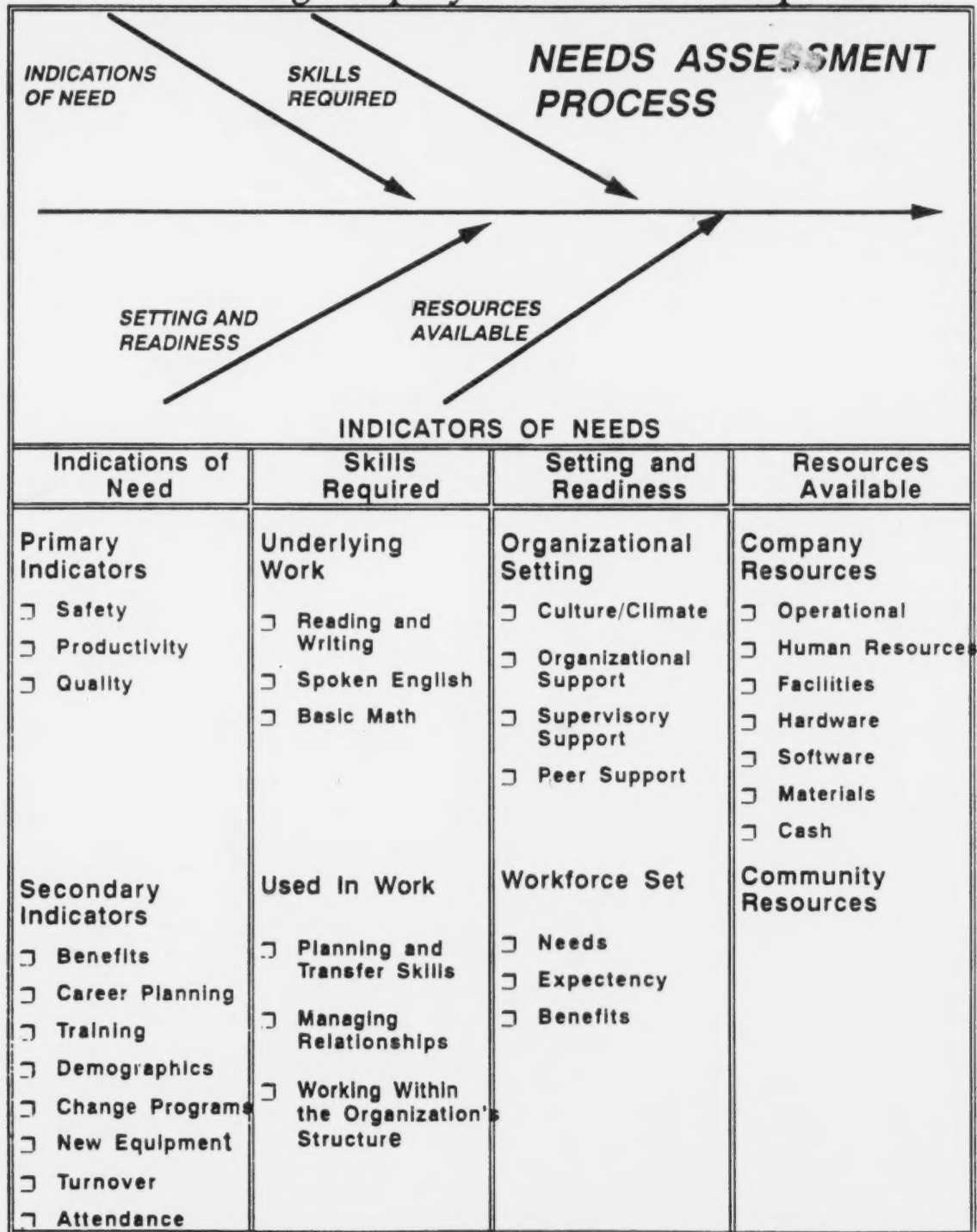
Assessing Employer Needs and Expectations

Because literacy, basic skills and ESL programs are relatively new in the educational training arena of the workplace, it seems that many employers do not always know why they want a literacy program or how they want it organized. Quite often, company officials believe that they need some kind of educational program because they see errors related to poor reading skills, or they know they must prepare for technological changes and that means upgrading the basic skills of employees, or they already have introduced new technology and their employees are having trouble working with it because their employees do not speak English. However, when confronted with questions like, "Why do you need a literacy program? What are your expectations of a basic skills course? or Why do you want your employees to learn English?", employers frequently do not have the exact answers needed to plan a program. This is not because they have not thought about these questions, or have not done some preliminary research regarding literacy skills at the worksite, it is because these are difficult questions for the company as a whole to answer and can take a great deal of skill and time to analyze. Furthermore, the initiation of a literacy program is an endeavor which takes commitment and involvement from all levels of the company. These types of questions need to be asked of many individuals from the chief executive officer to the hourly employee. Consequently, assessing the needs and expectations of the employer is a process that must occur at many different levels and with several different types of information gathering techniques.

In Figure 3.a, Assessing Employer Needs and Expectation, Linda Stoker of the Essential Skills Resource Center, depicts the process of needs assessment in the workplace. According to Stoker, the process involves working with the company to determine what primary and secondary indicators of need are apparent; what skills are required underlying work and used in work; what is the nature of the organizational setting and its readiness for a literacy, basic skills or ESL program; and what resources are available to implement the program. Implementing the process, then, becomes a matter of 1) structuring questions to identify if the indicators are present and to what extent, 2) conducting a skills analysis to determine the explicit and implicit skills required for the job, 3) interviewing employers and employees to assess the setting and the readiness of the company for the program, and 4) researching the resources that are available for implementing the program.



essential skills resource center assessing employer needs and expectation



Appendices pages A3.1-A3.3 provide examples of the types of questions that should be asked to determine if there is a need for a program and the nature of support that exists for it. While the structure and content of the questions may vary according to the type and size of company that is considering a workforce literacy program, there are some key questions that are common to all. They are:

1. Is there a discrepancy between what employees should be doing and what they are doing?
2. Is the discrepancy costly to the company or the employee?
3. Is the discrepancy related to a literacy, basic skills, or language problem.
4. If a performance problem related to literacy, basic skills, or language skills does not exist now, is it likely to exist in the future?
5. If a literacy related performance problem is identified, how will it be resolved?
6. If a literacy related performance problem is identified, is it large enough to warrant an in house program or should employees use existing educational resources in the community?
7. Is the company supportive of such a program at all levels, executive, management, supervisory, and hourly employees? How about the union, if there is one?
8. Does the company have the time and money to implement a program that will meet the identified needs? How much are they willing to spend?
9. Will the program be done with in-house trainers or is outside expertise required? What outside expertise is available?
10. Have all the alternatives to an in-house literacy, basic skills or ESL program been considered? What is the most cost-effective?

Rothwell and Brandenburg (1990) suggest four basic methods for collecting needs assessment information: 1) critical incident, 2) interview or survey, 3) task analysis, and 4) literacy audit. Collecting data on critical incidents provides information on situations where poor performance may result in negative consequences for the company. By analyzing the cause of the incidents, one can tell if there is a literacy or basic skills deficiency causing the problem. A classic example is the case of the shipping and receiving department employee who cannot read a special order so s/he sends the wrong product. A supervisor notices that the mistake is due to poor reading skills and thus the need for skills training in the shipping and receiving department is identified.

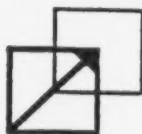
A second method of collecting data for needs assessment identified in the Workplace Literacy Primer, (Rothwell and Brandenburg, 1990) is interviews or surveys. Appendices pages A3.1-A3.2, are examples of close ended surveys and are intended to be rated to determine the level or type of need. They are useful for a preliminary meeting with a company to quickly gauge the company's readiness and overall need for a literacy or basic skills program. These surveys are also helpful to determine if more in depth needs assessment is appropriate. If more needs assessment is required, then an open ended survey, as represented on Appendix pages A3.3-A3.7, can be developed for use during a company interview or to send to various employees for written responses.

Rothwell and Brandenburg further suggest that interviews can be structured, unstructured or both depending on the situation. Interviews should be conducted with all levels of employees and both structured and unstructured interviews require preliminary work before hand. Structured interviews have all the questions written beforehand and each person that is interviewed is given the same set of questions. Unstructured interviews, on the otherhand, are more like lists or outlines of issues to be discussed and should be based on the questions identified above, as well as pertinent basic skills issues of the workplace. Figures 3.b and 3.c provide an overview of the skills underlying work and the skills used in work according to Stoker and could be used as the basis for a structured or unstructured interview session with the company.

Identifying Literacy Requirements of the Job

The remaining two methods of needs assessment recommended by Rothwell and Brandenburg, task analysis and literacy audits, occur largely after the company has decided that they need a program and want to have a job specific curriculum for instruction. Both methods can be extremely complex and time consuming, and therefore it is recommended that these methods be utilized only after the company has committed to doing a program. Further, task analysis and literacy audits provide information which relate to the instructional component of the program. Specifically, these methods provide information regarding the basic skills needed by the employee for competent job performance and the corresponding curriculum that needs to be implemented in order to develop the basic skills adequately.

It is easy to confuse these two methods of needs assessment because they provide information about the same thing: the basic skills needed to perform a job. The literacy audit, however, is a much more extensive process and yields a great deal more information about what basic skills the employee is actually using on the job as well how effectively s/he is using those skills. Rothwell and Brandenburg (1990, p. 152) indicate that task analysis is conducted "to examine, in minute detail, what employees should do to carry out common procedures or work activities, this information is then used as the basis for preparing training. When applied to assessing basic skills training needs, however, task analysis must be carried a step beyond what is traditionally examined to include what knowledge or skill the worker must possess to begin the procedure or task."



essential skills resource center

The Skills Underlying Work			
	Reading and Writing	Speaking Standard English	Basic Math Skills
I.	Application: Panels, Signs, and Keyboards Skills: • sight/sound correspondence • encode/decode words & phrases • enter information	Application: Gather and Share Information Skills: • develop key vocabulary • ask & answer questions • give & follow instructions	Application: Count and Measure Skills: • whole numbers • decimal fractions • common fractions • finding unknowns
II.	Application: Forms, Messages, and Texts Skills: • encode/decode words & phrases • enter & report information • gather & analyze information	Application: Engage and Interact with Others Skills: • develop key vocabulary • ask & answer questions • give & receive instructions • explain point of view & discuss issues	Application: Use Formulas Skills: • whole numbers • decimal fractions • common fractions • finding unknowns
III.	Application: Resource Material, Diagrams, Matrices, and References Skills: • Enter & report information • Gather & analyze information	Application: Participate in Groups and Teams Skills: • develop key vocabulary • ask & answer questions • give & follow instructions • explain point of view & discuss ideas	Application: Use Tables and Graphs Skills: • whole numbers • decimal fractions • common fractions • finding unknowns



essential skills resource center

The Skills Used In Work			
	Planning & Transfer Skills	Managing Relations: Personal & Group Boundaries	Working Within the Organization's Structure
I.	Application: Managing One's Worklife Skill Set Examples: •learning to learn •following directions •organizing sequences •basic job content knowledge •etc.	Application: Managing One's Worklife Skill Set Examples: •work habits •personal health •emotional health •job keeping skills •etc.	Application: Managing One's Worklife Skill Set Examples: •business literacy •time management •etc.
II.	Application: Working With Others Skill Set Examples: •framing questions •explain or demonstrate job tasks to others •etc.	Application: Working With Others Skill Set Examples: •team skills •interpersonal communication skills •listening skills •etc.	Application: Working With Others Skill Set Examples: •social contracts •negotiating skills •train the trainer •etc.
III.	Application: Managing Change Skill Set Examples : •critical thinking •problem solving •job-related learning (trig, statistics, etc.)	Application: Managing Change Skill Set Examples: •career development •stress management •leadership skills •etc.	Application: Managing Change Skill Set Examples: •meeting management •etc.

There are many ways to conduct a task analysis, but common to all is observation and analysis of the knowledge, tasks, duties, skills and behaviors needed to perform a specific job. These items are carefully written down in sequence to give a step by step description of the components of performance needed to complete jobs of employees that will be participating in the basic skills training. This information is then used to develop a customized list of basic skills needed across entry level jobs in preparation for curriculum development. Appendix pages A3.9 is an example of task analysis form prepared by Barbara Austin of El Paso Community College for the garment industry. The following documents have a more detailed account of how to conduct a task analysis:

1. Carnavale, A.P., Gainer, L.J., & Meltzer, A.S. (1990). Workplace Basics. The Essential Skills Employers Want. San Francisco, CA. Jossey-Bass Publishers.
2. Carnavale, A.P., Gainer, L.J., & Meltzer, A.S. (1990). Workplace Basics Training Manual. San Francisco, CA. Jossey-Bass Publishers.
3. Mikulecky, Larry. (1985). Literacy Task Analysis: Defining and Measuring Occupational Literacy Demands. Paper presented at the National Adult Educational Research Association. Chicago, IL. ERIC Document Reproduction Service No. ED 262 206.
4. Rothwell W.J. and Brandenburg, D.C. (1990). The Workplace Literacy Primer. Amherst, MA. Human Resources Press.

A literacy audit takes the information obtained in the task analysis a step further and investigates the jobs in terms of their basic skills requirements and analyzes to what extent a company's workforce has those skills. The methods of data collection in a literacy audit are observation, collection and analysis of materials, interviews, and customized tests. In Appendix pages A3.12-A3.13, the authors of The Bottom Line: Basic Skills in the Workplace (1988), provide a step by step account of how to perform a literacy audit. Rothwell and Brandenburg (1990) further elaborate on this procedure in their Workplace Primer.

Assessing Employee Needs and Expectations

During the last phase of the literacy audit, the needs assessment for employees begins. Employees' basic skills are tested in relation to the requirements of the job. The results of the testing should provide information on the needs of employees. Because of the shortcomings of most commercial standardized tests and because they do not adequately measure the basic skills required on the job, experts (Kirsch, I. 1987; Short, D. & Grognet, A., 1988; BCEL Newsletter, 1990; Rothwell and Brandenburg, 1990; Sticht, 1990; Sticht, 1991), recommend that job specific assessments be developed for determining employee needs.

Further, the Business Council for Effective Literacy in the January 1990 newsletter, reviews the use and misuse of standardized tests. The newsletter also gives some alternatives to standardized testing like portfolios of student work, observations, case studies, simulations and performance demonstrations. Appendix pages A3.6 -A3.20 Assessment in Adult Education: A Primer, published by the Texas Education Agency provide more detail on alternatives to standardized testing.

In some cases however, the company will insist that commercial standardized tests be used for assessment because they provide numerical values such as grade levels that most everyone thinks are universal definitions of skill level. In reality, grade levels say very little about an individual's basic skills ability and nothing about how the skills transfer to the job. Further, there are some potential legal problems that exist in the use of standardized tests in the workplace which are discussed in the management section of this Handbook. Nevertheless, our educational system is so intrinsically tied to the use of commercial standardized tests that it may be unrealistic to abandon them totally. If commercial standardized tests are to be used, below are some suggestions for selecting them.

1. Many standardized tests have problems with reliability and validity. The information provided in the test manual should be thoroughly reviewed to determine what studies have been done to test the reliability and validity. If the information provided is inadequate, it is important to contact the testing company and speak with the specialists to get this information. No test should be used without knowing if the test tests what it is supposed to measure (validity) and if the test yields similar results when it is given each time (reliability). Appendix pages A3.21-A3.26, an excerpt from Sticht's 1990 handbook on Testing and Assessment in Adult Basic Education and English as a Second Language, reviews the most commonly used tests in adult education and provides some pertinent information for selection.
2. If using a norm-referenced test, the norms should have been established on adults, not children.
3. Testing conditions should be the same each time the test is given. See Appendix pages A3.27-A3.30 for a review of important factors to consider when testing.
4. If your program is providing basic skills to include reading, writing and math, test all of those skills not just reading. All too often, a reading test score only is used for placement of reading and writing. Appendix pages A3.31-A3.32 contain a list of a variety of basic skills tests.

- 5 Do not use an English reading test to assess English literacy skills of non-native speakers when non-native speakers have not acquired sufficient English language. The following resources provide information on assessment of limited English proficient students:

Center for Applied Linguistics
1118 22nd Street NW.
Washington, D.C. 20037-0037

Evaluation Assistance Center - West
College of Education
University of New Mexico
Albuquerque, N.M. 87131

6. A common problem in using standardized tests with adults is that they have experienced years of failure taking these tests. Consequently, they have a tremendous fear of them which influences the validity of the results. This fear is intensified in the workplace because employees can easily assume that the tests will be used for unrelated personnel decisions. To reduce the fears and avoid morale problems, a test should not be given the first day. An orientation period should be scheduled to get to know the employees and their fears of testing. Employees should be informed of the purposes of the tests and the uses of the results. Above all, the scores should be kept confidential, and the educational partner should know beforehand if the company has any intentions of using the results for purposes other than instruction. (see Appendix pages A3.27-A3.29 for more information.)
7. It is a good idea to accompany the standardized test with some form of employee's self assessment since clearly a standardized test is not intended to reveal all the information necessary for making good placement decisions. An intake questionnaire, with vital demographic and historical data, is an important supplement to any standardized test. This idea is taken further in a relatively new assessment technique called participatory assessment which allows the learner to participate in the diagnosis of his or her own learning strengths and weaknesses. This seems appropriate, since the learner is in a relatively good position to identify what is happening during the learning process. Further, allowing learners to assist in the assessment process is not only important as an information gathering strategy, it is crucial to building the self-concept of the adult learner. This technique is further described in the following section.

Developing and Utilizing Assessment Techniques and Strategies for the Workplace

The advantages and disadvantages of standardized tests have been widely published (Kirsh, 1987; Lytle, et. al. 1989; Lytle and Wolfe, 1989; Sticht, 1990; TEA, 1990). Sticht (1991) has established the need for development of job specific assessments. The problem is, however, that most practitioners who are doing workplace programs feel inadequate in developing job specific assessment instruments. Nevertheless, it is crucial to become familiar with alternative forms of assessment and begin developing job specific instruments that are customized for workplace literacy, basic skills and ESL programs. Appendix pages 3.33-A3.34, the 1989 ERIC document Adult Literacy Education: Program Evaluation and Learner Assessment, by Lytle and Wolfe compares four different approaches to learner assessment. It seems that competency-based and participatory are the most appropriate approaches for assessment in the workplace.

Competency Based Assessment

Competency based assessment has great potential because it allows for the assessment of real life tasks. In the workplace this means basic skills related to job specific tasks can be tested. Also, employers do not care as much about the grade level of their employees as they do about how well they are performing. Competency based assessment requires the pre-determined standards of performance in defined areas. For the instructor in the workplace, competency based assessment is advantageous because it provides a continuum of difficulty which is crucial to monitoring progress. Here the learner is tested on how well s/he performs the objectives of instruction rather than how s/he compares to the skill levels of the group. In addition, skills are not just measured at the beginning and end of instruction, but continually as competencies are achieved and standards of performance are demonstrated. Finally, there are many different testing strategies that can be used to assess competency. Some common testing strategies are:

Reading

1. Cloze procedure using job specific text. (See appendix pages A3.35-A3.40.)
2. Selected reading passages from job related materials with questions related to type of reading that was specified in the instructional objective.
3. Reading job specific material aloud and asking the reader to verbalize what it means.
4. Checklist of reading behaviors that are observed which is geared to the job task.

Writing

1. Writing samples with holistic grading scale.
2. Questionnaire of writing behaviors that are observed during class.
3. Job specific writing exercises, such as filling out forms with a predetermined rating scale.

Oral Language Development

1. Utilization of oral language questionnaires
2. Utilization of observation of language skill development with checklist.

Math

1. Utilization of math problems which are needed on the job.
2. Utilization of mathematical simulation exercises.

Developing job specific instruments takes some research, some risk and some practice. There are several good resources which provide valuable information of the construction of competency based assessment listed below.

1. Erwin, T.D. (1991). Assessing Student Learning and Development. San Francisco, CA: Jossey Bass.
2. Grognet, A.G. & Short, D. (1988). A Review of Workplace Literacy Tests and Testing. Center For Applied Linguistics. Washington, D.C.
3. Mikulecky, Larry. (1985). Literacy Task Analysis: Defining and Measuring Occupational Literacy Demands. Paper presented at the National Adult Educational Research Association. Chicago, IL. ERIC Document Reproduction Service No. ED 262 206.
4. Popham, J.W. (1978). Criterion Referenced Measures. Englewood Cliffs, N.J.: Prentice Hall

Finally, in developing job specific assessment instruments, the content of the tests that are developed should relate to the task analysis conducted during the needs assessment and the objectives tested should relate to the objectives specified in the curriculum.

Participatory Assessment

Participatory assessment comes from the learner centered movement that is currently emerging in adult learning theory. Fingeret and Jurmo, (1989, p. 5), contend that participatory literacy education is "based on the belief that learners, their characteristics, aspirations, backgrounds, and needs should be at the center of literacy instruction." It is from this premise that participatory assessment is based.

Lytle and Wolfe (1989), define participatory assessment as a process rather than a tool or set of tools which relies on the perspective of the learner and how s/he views the design of instruction and the collection of assessment data. "Participatory assessment, then, necessitates a collaborative relationship among learners and program staff in determining the goals, texts, and contexts of assessment, as well as in judging its outcomes." (Lytle and Wolfe, 1989,

p. 52). This process assumes that literacy definitions, practices, tasks and contexts vary widely from program to program. Subsequently, what gets assessed is different for each learner and is geared to their educational goals. Because of the flexibility of participatory assessment, it is a highly adaptive and effective assessment strategy to use in the workplace.

Procedures used in participatory assessment are similar to those used in competency based assessment discussed above. Assessment information can be collected through surveys, interviews, demonstrations of reading and writing, and portfolios. A system for designing a participatory assessment process for the workplace is outlined below.

1. Enable the employees to define what essential skills they use in the workplace and which ones they need to improve.
2. Have the employees discuss or write their "histories" of reading, writing, communicating and learning on the job in order to understand what they bring to instruction in the way of learning strengths and weaknesses. (If trust has not developed in the group, this should be done individually or in a journal for those who may not be willing to expose their histories.)
3. Develop a series of essential skills competency activities using input from item number 1 and job related task analysis to enable employees to demonstrate their skills.
4. Based on their own perceptions of the results of items 1, 2 and 3, ask employees to set educational goals and priorities.
5. Develop strategies to implement this process so that it is dynamic and information is integrated into an ongoing educational plan for the employee.

Implementation of Effective Evaluation Strategies and Methods

The purpose of evaluation is to discover the worth or value of something. While assessment data typically provides information that can be used to measure a skill or activity or understood behavior, evaluation data provides information that determines the worth of a program, activity or event. Evaluation is also a tool for decision making. It is closely linked to assessment in that information obtained through the collection of assessment data is used to make decisions about desired program outcomes and to what extent those outcomes are achieved. Evaluation, then, examines what is supposed to happen as a result of the program and how well it happened.

There are two important characteristics of implementing an effective evaluation system. First, the evaluation system should be simple. If the system is too complicated, people will resist it and not implement it properly, thus effecting the quality and reliability of the data. Making the system flexible is the second important characteristic of good evaluation. Since evaluation is supposed to be used as a tool for decision making, it is important to make the system flexible so that information obtained from the system can be used to modify and change the program if necessary.

When developing an evaluation strategy for the workplace it should have the following elements:

1. **Proof of effect.** This involves incorporating measures in the evaluation system that will demonstrate the effectiveness of the program.
2. **Evidence of criteria.** This means establishing the direction of the program at the onset and identifying the criteria that will indicate if the program is going in that direction.
3. **Critical questions.** These are questions which reveal what happened in the program. The questions are different for different audiences.
4. **Value.** Value relates to the worth of the program, why the program is valuable and to whom.

An approach to evaluation which integrates these elements into a sequential and systematic procedure that can be used in the workplace is outlined below.

1. **Identify program outcomes.** What should be accomplished in the program when it is finished and what are the criteria for success.
2. **Formulate evaluation questions.** What are the critical questions that tell what is happening in the program and at what level of success?
3. **Determine appropriate methods of data collection.** What tools, measurements, and instruments will be used to provide information on how well the program outcomes are being met?
4. **Plan and implement evaluation tasks, activities and procedures.** What has to be done in order to conduct the evaluation?
5. **Identify and train program personnel responsible for implementing the evaluation system.** Who is going to do the evaluation and are they trained properly to ensure consistency of results and reliability of data, e.g. is everyone giving the test the same way?
6. **Report results of the evaluation.** How is the information obtained going to be used and by whom in order to make decisions about changing, modifying or maintaining the program?

Implementing the program evaluation begins at the first meeting with company. Program outcomes should be established at the very beginning of negotiations and tied into the management, assessment and instructional systems established for the workplace program. Evaluation is a dynamic, not a static activity. Even though program outcomes and methods of data

collection are established during the initial stages of program development, they can change as evaluation information is received, reviewed and fed back into the system. This is the central to the concept of formative evaluation.

Program evaluation is either formative or summative. Formative evaluation occurs throughout the implementation of the program while activities are underway and at the conclusion of the program. It allows for the adjustment of plans, reallocation of resources, and other management decisions based upon evaluation results. It is the mechanism for addressing the evaluation questions. Summative evaluation, on the other hand, indicates the attributes and shortcomings of the program at the time the plan of operation was developed. It lets one know how effectively program outcomes were met and is especially critical for assessing the viability of the program as a model which can be replicated.

Each dimension of the program: the classroom, the worksite and the overall organization of the company should be clearly delineated in the evaluation design. Program outcomes are not limited to just classroom activities in workplace programs. One must also look at how learning transfers to the job and how learning transfers to the larger goals of the company. Furthermore, separate and distinct methods of data collection are used for different dimensions of the program. It is important not to confuse evaluating the activities of the classroom with evaluating the transfer of learning to the job. For example, the answer to the question, how effectively can the employees read the training manual?, is not the answer to are the employees doing a better job because they can read the manual? "How effectively can the employees read the training manual is the critical question for a program outcome like, employees will be able to read the training manual at the end of the instruction."

Program evaluation involves the collection of both qualitative and quantitative data. Qualitative data provides depth and detail regarding how well a program is working. It shows the quality of a program through analysis of observed behavior. Quantitative data provides a standardized framework based on predetermined response categories. It looks at the quality of a program through a numerical value system. Some appropriate qualitative data collection methods for the work place are: observations, interviews, portfolios of student work, case studies, performance checklists, and testimonials. Quantitative methods of data collection that can be used are pre-post test scores, competency test scores, cost benefit analysis, and analytical and longitudinal studies. Surveys and questionnaires serve many evaluation purposes as well and can be either qualitative or quantitative depending on how they are designed. The Bottom Line, 1988, The Workplace Basics Training Manual, 1990, The Workplace Literacy Primer, 1990, and the TEA Primer on Assessment, 1990, provide additional information on the use of these methods.

Additional suggestions for using these methods are discussed below.

Methods of Evaluation

1. Observation is a valuable evaluation tool. "A picture is worth a thousand words" can reveal much about the effectiveness of the program. Occasional site observation for classroom feedback is a good evaluation investment. Site observation can also convey to your business partner a personal interest in the welfare of their essential skills program. Some questions for guiding an observation are:

- What is the students/business representatives reaction to material being presented?
- When touring the production operation, what changes in process are evident? What is observed within the physical layout of the facility (such as safety signs), that may impact instruction?

2. Interviews can be conducted as a group or individually and should be used throughout the program calendar. Initial interviews can help establish program outcomes. Interviews can also be conducted for learning about reasons for student attrition. A follow-up interview with students who leave the program prior to completion is essential. Information gathered in that interview can impact teaching style, personnel, level of material presented or other relevant components. Some questions for guiding interviews are:

- Are the interviewer hours available, both from a programmatic as well as financial view point.
- Is the company/or employee willing to give the interviewer the time needed to conduct an individual interview? Could the objectives of this component be met with a group interview?

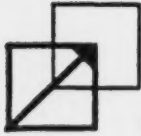
3. Surveys and Questionnaires sent to all levels of program participants, including supervisory personnel can be most valuable in the overall evaluation picture. They are time efficient, and give individuals who may not be attending a class the opportunity to give the education provider feedback on how the program impacts them. For instance, supervisors can be asked to describe how much they feel the essential skills training has contributed to improving employee work performance and has met such other program goals as reducing on-the-job training time.

4. Logs and journals provide valuable documentation on the change of behavior of program participants which is difficult to measure in standardized instruments.

- 5.** Audio and video recordings can enhance a program evaluation. A video of a class setting can assist in evaluation of both the instructors and the participants' performance. The use of audio and video offer permanent records of a program and provide excellent qualitative documentation.
- 6.** Case study evaluation can be a particularly valuable evaluation method to document changes in learning as a result of instruction. This form of evaluation can also be useful in focusing on individual changes in job performance within the production line or quality circle.

Putting the Assessment and Evaluation Package Together for the Company.

In general, educators are familiar with the concept of accountability. We hear it from time to time, especially when budgets are justified, and we know that it is important. In the business world, however, the issue of accountability is paramount. In designing programs for business and industry, educators will be held accountable for the money that is spent and the results of the program. At the core of accountability is assessment and evaluation. It is vital that the educational partner and the business partner agree on several crucial areas in order to put the assessment and evaluation package together and ensure program accountability. First, both partners must decide on the purposes of the assessment and evaluation. Second, expectations and outcomes must be delineated and established. Third, the extent and nature of the services that the educator will provide must be clearly identified so that appropriate assessment criteria can be established and evaluation tools can be implemented. Fourth, information obtained from assessment and evaluation procedures must be reported appropriately and used to improve the program in order to upgrade all skills of workers. These four activities are the essence of assessment and evaluation and information obtained from these activities should guide the instructional design of the program which is described in the next section of this handbook.

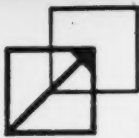


essential skills resource center change profile checklist

Instructions:

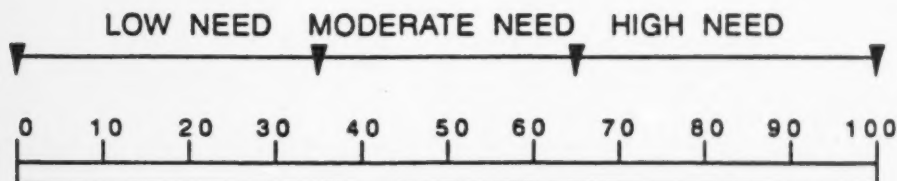
1. Read each of the following change indicators and check the box to the left if it applies to your company.
2. Add up the checks and multiply the total by 4.
3. Plot the result on the change profile scale on page 2.

- ☐ 1. The company has a strategic human resource development plan.
- ☐ 2. 20% or more of the target workforce are women and/or minorities.
- ☐ 3. The company plans to or is installing advanced manufacturing systems.
- ☐ 4. The company's business goals are supported by aggressive quality programs.
- ☐ 5. The workforce lacks skills needed for new training programs.
- ☐ 6. The government has mandated safety or quality programs for the industry.
- ☐ 7. The average seniority of production workers is over 15 years.
- ☐ 8. Work is increasingly computer driven.
- ☐ 9. The company is a supplier to a Baldrige Award applicant.
- ☐ 10. 10% or more of the workforce communicates in a language other than English.
- ☐ 11. Turnover is too high.
- ☐ 12. Training and re-training take too long to produce their intended results.
- ☐ 13. The company is investing in self-managing work groups.



essential skills resource center change profile checklist

- ☐ 14. The company draws on its entry-level population for internal hiring.
- ☐ 15. The company is engaged in re-structuring its compensation system.
- ☐ 16. Workers spend less time running equipment and more time problem solving.
- ☐ 17. The company is investing in performance incentive plans.
- ☐ 18. Rules of work are being re-defined.
- ☐ 19. The employee pool does not include enough qualified applicants.
- ☐ 20. Product turn-around time must be reduced.
- ☐ 21. The company is planning reductions in force.
- ☐ 22. Community labor standards are not high enough.
- ☐ 23. Absenteeism is too high.
- ☐ 24. The accident rate is too high or accidents are too costly.
- ☐ 25. Extensive re-work must be undertaken to guarantee quality.



CHANGE PROFILE SCALE

Directions: Your perceptions are important and can give you clues about conditions in your organization which may or may not support taking corrective action on employees' basic skills problems.

Use this Activity to help you assess conditions in your organization. Circle a code for each problem listed below which corresponds to your perception about it. (There are no "right" or "wrong" answers.) Use the following rating scale:

- 5 = A Very Great Problem
- 4 = A Major Problem
- 3 = Somewhat of a Problem
- 2 = A Minor Problem
- 1 = Not a Problem (A Strength)

	A Very Great Problem			Not a Problem	
	5	4	3	2	1

Awareness Problems

1. Top managers in this organization are generally not aware of the national literacy or basic skills crisis.

5	4	3	2	1
---	---	---	---	---
2. Middle managers in this organization are generally not aware of the national literacy or basic skills crisis.

5	4	3	2	1
---	---	---	---	---
3. Supervisors in this organization are generally not aware of the national literacy or basic skills crisis.

5	4	3	2	1
---	---	---	---	---
4. Top managers in this organization are generally not aware of the national literacy or basic skills crisis on this organization at present.

5	4	3	2	1
---	---	---	---	---

5. Middle managers in this organization are generally not aware of the national literacy or basic skills crisis on this organization at present.

5 4 3 2 1

6. Supervisors in this organization are generally not aware of the impact of the literacy or basic skills crisis on this organization at present.

5 4 3 2 1

Awareness Problems Score _____

Cultural Problems

7. In this organization, there is ample evidence (visible signs) that employees enjoy good job security.

5 4 3 2 1

8. In this organization, there is a tradition of the organization investing adequate funds in employee training education.

5 4 3 2 1

9. In this organization, salaries are least competitive with other, similar employers.

5 4 3 2 1

10. In this organization, a written statement described the purpose of the organization.

5 4 3 2 1

11. In this organization, employee development, education and training activities are directly and explicitly linked to the organization's written purpose statement.

5 4 3 2 1

12. In this organization, there is a process of developing strategy which is well understood.

5 4 3 2 1

13. In this organization, there is a explicit consideration of employee development, education and training activities in the Strategic Business Planning process. 5 4 3 2 1
14. In this organization, there is linkage between decisions made about the organization and decisions made about development, education and training. 5 4 3 2 1
15. In this organization, top managers take active personal interest in employee development, education and training. 5 4 3 2 1
16. In this organization, top managers provide ample resource for conducting employee development, education, and training activities. 5 4 3 2 1
17. In this organization, management employees at all levels are held accountable for employee development, education, and training. 5 4 3 2 1
18. In this organization, managers are (in part) evaluated and rewarded on the basis of their efforts to develop, educate, and train employees. 5 4 3 2 1
19. In this organization, managers perceive employee development, education, and training initiatives as relevant to needs of the organizations. 5 4 3 2 1

20. In this organization, the chief decision-maker and leader charged with coordinating employee development, education and training participates in identifying and interacting in the environments in which the organization is or will be operating.

5 4 3 2 1

Cultural Problems Score _____

Dominant Coalition Problems

21. Top managers in this organization believe that this organization should not try to solve employees' basic skills problems unless corrective action is compelled by law, reimbursed through governmental programs, or justifies by convincing economic benefits to the organization.

5 4 3 2 1

22. Top managers in this organization believe that this organization has a role to play in improving society.

5 4 3 2 1

23. Top managers in this organization believe that the organization is a social as well as economic institution and should accordingly strive to achieve multifaceted goals.

5 4 3 2 1

Dominant Coalition Score _____

SCORING SECTION

Use the preceding activity to help you assess the "readiness" of your organization to take corrective action on employees' basic skills problems. Generally speaking the higher the score in each of the three parts of the activity, the greater the need to concentrate your attention on that issue in building support for action.

- A score between 30 and 18 in the **Awareness Problems** section of the activity indicates significant barriers to action in that area. If your score is between 30 and 18, devote your initial efforts to building awareness:

- A score between 60 and 42 in the **Cultural Problems** section of the activity indicates significant barriers to action in that area. If your score is between 60 and 42, devote your initial efforts to making the culture more supportive:

- A score between 15 and 9 in the **Dominant Coalition Problems** section of the activity indicates significant barriers to action in that area. If your score is between 15 and 9, devote your initial efforts to building top management support:

SOURCE: Rothwell, Dr. W. J., Brandenburg, Dr. D. C. (1990). The Workplace Literacy Primer. Amherst, MA: Human Resource Development Press.

INVESTIGATIVE QUESTIONS - WORKPLACE LITERACY PROGRAM

What organizational goals do you believe can be accomplished by training?

What workplace changes are planned that will affect future goals?

What problems exist in what specific areas of employee performance?

Are there new equipment and/or procedures that employees need to learn about?

How are new employees oriented to the organization? Do they receive training before assuming jobs?

Do current employees need to be retrained for different jobs or tasks?

What opportunities for promotion are available to entry level workers? What abilities/qualities do workers need in order to be promoted?

What skills are needed now and in the future to perform specific jobs? Are you finding all these skills available in new employees as well as established employees?

What sections, departments and organizational levels should be involved in training, the design, the assessment?

Do supervisors and managers need to develop their skills as on-the-job trainers, team builders, and others?

Do you have people who don't know much English? Does it interfere with their work? Do these people require closer supervision? Do they have less job-flexibility? Do you have to use interpreters? How often? Are there misunderstandings (due to language) with native English speakers?

To what do you attribute labour turnover?

Are there critical safety problems on the production line?

Do most workers, new and established, grasp the overall work process?

What happens when there are breakdowns and emergencies?

Do workers have less initiative than you would like to see?

Does the training given to employees new and old assume that the workers understand a certain level of English?

JOB ANALYSIS OBSERVATION/INTERVIEW

Position Title:

Job Task:

Description (two sentences):

QUESTIONS

What technical job knowledge is required to perform you task/job task?

What past job experience is required to perform that task/job?

What types of training or education are required to perform that job?

What skills (traits, characteristics) are required to perform your job?

Are there any barriers to effectively completing your job? If yes, what are these?

What types of communications (written or oral) do you have with people within our organization? Outside the organization?

Do you make presentations before a group?

What are the major job tasks that you perform each day? List in order.

What is the first thing you do when you come to work?

What is the last thing you do before you leave work?

What is the major function/purpose/objective of your job?

What is the major function of the individual for whom you work?

Do you have any responsibility for using numbers, calculating budgets or reports on your job?

What are the things you like least about your job?

What are the things you like most about your job?

Would you please describe the most effective person you either know or could imagine in your job (include yourself, if applicable).

What does this person do that makes him so effective?

Would you please describe the least effective person you either know or could imagine in your job (include yourself, if applicable). What does this person do that makes him/her so ineffective?

Is there anything else that we have not covered that you think I should know?

What is special/unique about working here in this company/in the garment industry?

Are there any physical demands of your job? Any dangers or hazards?

LITERACY TASK ANALYSIS

Position: Sewing Machine Operator
 Job Task: Sewing watch pocket to facing

Job Subtasks

1. Uses sewing machine to sew pocket to facing.
2. Checks quality of operation before working on item.
3. Oral communication with supervisor and others regarding product, quality, equipment, production.
4. Calculates pay using report.

Literacy Tasks Basic Skills

1. Oral communication with others.
2. Knowledge of machine and product result.
3. Calculate numbers on form.
4. Follow procedural directions.
5. Compare/contrast requirements to achieve product quality standard.

HOW TO PERFORM A LITERACY AUDIT

1. **Observe employees to determine the basic skills they must use in order to perform their jobs effectively.**
 - Watch the employee(s) throughout a workday to be sure all tasks are observed. Continue this observation periodically rather than daily.
 - Record each time the worker reads, writes, or does an arithmetic calculation.
 - Note the setting in which these basic skills activities take place.
 - Note the materials used by the employee to perform the tasks involving basic skills activities.
 - Determine the purpose of those tasks.
 - Be aware of whether the tasks are performed individually or in groups.
2. **Collect all materials that are written and read on the job to determine the degree of skill proficiency an employee must have to do the job well.**
 - Include memoranda, telephone messages, manuals, bills of sale, and forms such as inventory lists, balance sheets, and requisition slips.
 - Examine the materials to determine reading levels, necessary vocabulary, and style.
 - Analyze the content of these materials to determine their function.
3. **Interview employees and their supervisors to determine their perceptions of the basic skills needed to do their jobs.**
 - Note the skills that the top-performing employees say are most important. Then ask them which skills they use most and how they use them.
 - Ask the supervisors which skills are needed for job performance, identifying those deemed critical.
 - Examine discrepancies, if they exist, between the employees' and the supervisors' perceptions of skills needed. One particularly good technique suggested by Mikulecky is to ask both supervisors and top-performing employees how they would break in a new employee, step by step. Questions such as "How do you decide what to do first?" and "How do you decide what to do next?" clarify the mental processes underlying good job performance and present a fuller picture than a simple listing of tasks.
4. **Determine whether the employees have the basic skills needed to do their jobs well.**
 - Combine the information gathered from observing the employees, collecting the materials they use, and the interviews. Then, write up a

description of each of the audited jobs in terms of the reading, writing, and computation skills needed to perform them well.

- Return to the work setting to observe how or whether the tasks requiring these basic skills are performed.
- Discuss observations informally with employees and supervisors when problems are observed, to pinpoint specific areas of difficulty and concern.

5. Build tests that ask questions relating specifically to the employees' job or job group.

- Use job-related language and style.
- Use situations and formats in which the basic skills being tested will actually occur.
- Ask employees to perform the tasks that simulate what they encounter on the job.

SOURCE: The Bottom Line: Basic Skills in the Workplace. (1989).
Washington, D.C.: U.S. Department of Education and U.S.
Department of Labor. pp. 14-15.

**ASSESSMENT IN ADULT EDUCATION
A PRIMER**

**DIVISION OF ADULT AND COMMUNITY EDUCATION PROGRAM
DEVELOPMENT
TEXAS EDUCATION AGENCY**

ASSESSMENT IN ADULT EDUCATION: A PRIMER

On June 6, 1990, adult educators in Texas met at a mini-conference on assessment. The purpose of this mini-conference was to begin the process of examining all aspects of student assessment in adult education. All levels of the adult education program, including English as a Second Language (ESL), Adult Basic Education (ABE) including basic literacy and intermediate adult education, and preparation for the high school equivalency examination (GED), were included. This document will serve as an initial guide or "primer" for adult educators on the assessment issue. As the examination process continues, sections will be added to the primer.

DEFINITION AND GENERAL PURPOSE

The following definitions of assessment terms and purposes are offered as a standardized "starting point" and basis for discussion:

Assessment:

What is it? Assessment is the process of gathering data for decision-makers on how well an individual(s) can perform a task(s).

What is it used for? The purposes for assessment in adult education may be:

- *To identify a student's level of competence;
- *To place a student in the appropriate level of program;
- *To show evidence of student progress within a level or from one level to another, or;
- *To identify students who are prepared to progress to a higher level or attempt a specific task or test.

ASSESSMENT OPTIONS

There are numerous options available to adult educators in regard to methodologies for assessment of students. Any assessment option should be chosen with regard to the specific competency or skill needing to be assessed. If, for example, assessment in the area of writing paragraphs, letters, or other expository documents is needed, the most logical assessment option would be ratings of actual performance.

The following include most of the assessment options useful in adult education:

INTERVIEWS-Examples of effective interview topics include: reasons for entering the program, previous educational experience, or perceptions of progress in learning. Ongoing interviews throughout the instructional experience can also give the teacher ample speech samples for rating verbal fluency (See Rating, below) plus a rich body of information on the students' interests, needs, and cultural background.

RATINGS-Holistic ratings of student performance in speech production, writing samples, oral reading and other situations producing observable behavior are considered very valid indicators of progress or mastery. An example is the holistic rating of free speech for ESL students, which might be a three-point scale such as:

- 0 = no oral production
- 1 = isolated words only (yes, no, labels for things)
- 2 = simple sentences, occasional errors (I go to the store)
- 3 = articulate, native-like production (I think I'll go to the store)

Other examples of ratings are self-ratings of skills, changes in skills, or self esteem:

PORTFOLIO DEVELOPMENT-Collections of student work, lists of readings, or tasks completed provide an overview of a student's development across the length of a course. A prime example is the collection of writing samples, which shows the chronology of writing skill evolution, in addition to possibly providing indicators of a handicapping condition, such as a learning disability. It was pointed out that portfolios can also include teacher observations of student behavior, indicating progress and mastery of target skills.

PERFORMANCE SAMPLES-include class presentations, reading aloud, community activities, and evaluation/discussion of shared experiences. These may be rated, as described earlier, on a holistic scale, or simply discussed and evaluated in natural language terms with the student.

The basic characteristic of the assessment options described above is that they are learner-centered and relatively unobtrusive. They have very high face validity, in that they directly and obviously assess what they intend to assess. These procedures also lend themselves nicely to curriculum-based approaches, especially when the curriculum is dynamic and changing, based on students' needs and ongoing input.

The primary difficulty with these measures is their reliability, in that ratings, interview results, and other assessments by their very nature produce different results depending on the examiner and the situation. These methods also demand extensive teacher training to be used effectively, and, if results are to be reported, labor-intensive work in the compilation and summarizing of results.

- * **TESTS**—The most common, although perhaps not the most appropriate, assessment option in adult education is that of paper and pencil tests. Categories of paper and pencil test are:
 - * **standardized**—Everyone receives the same test, under the same conditions. This allows for comparisons between individuals or between groups of individuals.
 - * **norm-referenced**—Reported results are derived by comparing an individual's response to how a reference group, or norm population, responded to the same test. Norm-referenced tests are one type of standardized test, and best known since most commercial tests are of this type.
 - * **criterion-referenced**—Reported results indicate degree of mastery of pre-set criteria usually expressed as percentage of items correct and/or percent of objectives mastered. Criterion-referenced tests are probably the second-best known type of standardized test.
 - * **competency-based**—Testing which reflects instructional programs designed specifically to develop certain competencies that are usually dictated by the demands of a job, or other placement desired by the student. Either criterion-referenced or norm-referenced tests may be used as competencies are defined.
 - * **curriculum-based**—Testing which indicates a program based on a curriculum, whether pre-set or dynamically developed with student input. This approach uses tests which are developed with the curriculum, so that one "tests the teaching" rather "than teaching the test."

It is important to understand the following characteristics of tests:

- * **validity**—The degree to which a test measures what it was designed to measure. Predictive validity is crucial in adult education, particularly when a test is used to qualify a person for a job, military service, or further education. Many instances have been cited recently where tests used to qualify one for a position or entrance

into the military have been shown to be seriously inadequate for this purpose.

- * **reliability**--The degree to which a test produced stable results, generally indicated by test-re-test correlations for a statistical derivative that estimates test re-test.

ADVANTAGES AND DISADVANTAGES OF ALTERNATIVES TO FORMAL TESTING

ADVANTAGES:

- * They are learner-centered
- * They are relatively unobtrusive
- * They have very high face validity (They directly and obviously assess what they intend to assess)
- * They lend themselves well to curriculum-based approaches, especially when the curriculum is dynamic and based on student needs and input.

DISADVANTAGES:

- * Reliability: ratings, interviews, and other similar assessments produce different results depending on examiner and situation
- * Demand extensive teacher training if they are to be used effectively
- * May call for labor-intensive work in compilation and summarizing of results.

COMBINING FORMAL VS. INFORMAL MEASURES

Many programs that review alternatives to assessment decide to combine tests with more informal measures. The fundamental, guiding principle, as mentioned in the first session on assessment, is the matching of instrument with purpose. Although placement is often accomplished through a standardized, norm-referenced test, this procedure may not be necessary or the most advantageous. Placement into a program may be better achieved through an interview with a student (including determining interests and goals/objectives), along with samples of reading achievement (e.g., through an informal reading inventory) and writing for holistic ratings, and performance samples. Assessment of progress may be determined in similar ways or combined with a standardized, norm-referenced achievement test.

Adult educators also hold to a tenet that the adult student should be involved in his/her own assessment as much as possible, especially in regard to feedback and interpretation of assessment results.

QUESTIONS, CONCERNS, AND ISSUES

The following are assessment issues by adult education program areas that were identified by groups of adult educators participating in the conference. These are issues that need resolution as adult educators continue to study the entire assessment area:

English as a Second Language:

1. How to correlate assessment to specific ESL program goals.
2. How to make the transition from informal to formal assessment (in particular with regard to time elements).
3. How to ensure uniformity and effectiveness of assessment.
4. How to make assessment non-intimidating.
5. Cost effective ESL placement techniques.
6. Linking ESL assessment measures to the ABE/GED continuum.

Adult Basic Education:

1. How can the Learning Disabled student be assessed?
2. How much time should be allowed for initial assessment?
3. Are there computerized assessment tools available?
4. What is the correlation between assessment and instruction in ABE programs?
5. Who should be involved with assessment?
6. What are some guidelines for the selection of assessment instruments and procedures?
7. How often should assessment take place?

General Educational Development Preparation:

1. The availability of assessment instruments for GED level in addition to official practice tests.
2. Assessment for screening of GED students.
3. GED writing skills placement.
4. Need for teacher training in writing skills assessment.

SUMMARY OF QUESTIONS, CONCERNS, AND ISSUES ON ASSESSMENT

In addition to a number of issues identified by levels as per group findings, the following issues were also identified as being of pressing need:

GUIDANCE AS TO APPROPRIATE INSTRUMENTS—The need for instruments which meet the different needs for assessment in adult education cooperatives throughout the state

TRAINING FOR TEACHERS—The need for training in assessment for teachers at all levels.

TIME—Allowance of sufficient time for test administration, scoring, and interpretation for teachers, as well as for students to take tests or other assessments was mentioned at every level as being a concern.

CONSISTENCY—In assessment procedures was mentioned repeatedly, though discussion of this issue indicated that guidelines, and not mandated instruments from the state level were needed.

Adult Basic Learning Examination (ABLE, 1967-86)

Purpose: To measure several basic education skills of adults.

Source: The Psychological Corporation, Order Service Center, P.O. Box 839954, San Antonio TX 78283-3954; (800) 228-0752.

Costs: Learner test booklets cost \$1.44; answer sheets cost \$.50.

Description: There are sections on vocabulary, reading comprehension, spelling, language, number operations, and quantitative problem solving. There are three levels of the test, corresponding to skills commonly taught in grades 1-4, 5-8, and 9-12. There are two equivalent forms at each level for pre-and post-testing. A brief locator test is available to match the learners' skill levels to the appropriate level of test.

Reliability, Validity, and Scores: Test-retest reliability is not reported. Internal reliability has been high. Validity analyses show moderate correlations with the Stanford Achievement Test. Scores can be reported as scale scores, percentiles, stanines, and grade equivalents. Item response data are also reported. The norm data are based on 4,000 adults in 41 states and are reported separately for ABE/GED students, prisoners, vocational/technical students (only at Level 3), and a combination of all.

Comments: This is a 1986 revision of a test that has been widely used to evaluate the outcomes of adult basic education. The revision appears to be very responsive to several criticisms of prior tests used in adult basic education programs. The content and tone are adult. The reading passages are mostly about common everyday matters, and the questions tap not only literal comprehension, but also higher forms of comprehension. The mathematics word problems are representative of those many people encounter in daily life.

Ten of the items in the reading comprehension section of Level 1 (Form E) cannot be answered correctly without background knowledge that a moderate portion of adult learners will not possess or they require predicting what an imaginary person did in a given situation, and there is no way to know for sure. The "correct answer" presumes the imaginary person will act in the rational, safe, or common manner, but people do not always do so.

The Level 3 math section includes only a few very simple algebra and geometry problems. Some learners who score high may find themselves required to take remedial math when enrolling in technical schools and colleges.

This reviewer has extensive substantial experience in administering the reading comprehension and problem solving sections to adult literacy students. The students do not appear offended or antagonized by the test, they apply themselves and try to do well, and often perform somewhat better than their instructors had expected.

Basic English Skills Test (BEST, 1981-87)

Purpose: To assess speaking, listening, reading, and writing skills of low proficiency non-native English speakers.

Source: Center for Applied Linguistics, 1118 22nd Street N.W., Washington DC 20037; (202) 429-9292.

Costs: For the oral interview section, the administrator's picture cue books to which the learners respond cost \$11.00 and answer sheets cost \$.25; for the literacy skills section, the not re-usable learner test booklets and scoring sheets (together) cost \$2.25.

Description: There are two sections. The oral interview section has 50 items and yields five scores for listening comprehension, pronunciation, communication, fluency, and reading/writing. It asks several personal questions, and then asks questions and gives the learners directions to follow in response to photographs, signs, a map, and some money placed on the table. The questions ask what are the people in the pictures doing, where is a specified object (the learner is to point to it), and what does a given sign mean. A few reading and writing items are included. The literacy skills section assesses reading and writing more thoroughly. There is only one level of the test. A second equivalent form of the test was recently made available.

Reliability, Validity, and Scores: Test-retest reliability is not reported in the manual. Internal reliability has been moderately high for the listening, communication, and fluency scores, and high for the total of the oral interview section. There are limited validity data. Learners assigned to seven ESL instructional levels, by means other than the BEST, were administered the BEST; the mean score of learners was substantially higher at each successive level. Though the test was administered to 987 ESL learners during its refinement, no norm data are reported in the manual. The manual describes "Student Performance Levels" for various total scores, but the basis for the specified levels is not given.

Comments: This test is adult in content and tone. The first section must be administered individually and to do so is moderately complex. Proper administration will require prior training and practice. The administration is paced and takes about 10 to 20 minutes. Most of the scoring of the first section is done as it is administered, not later from a tape recording. This saves time, but it can be distracting to the learner and sometimes even to the administrator. The scoring is judgmental and moderately complex, but after careful training inter-rater reliability has been high. A review of the test in Reviews of English Language Proficiency Tests (see Appendix B) described it as exciting, innovative, and valid, but time-consuming to use and lacking justification for the scoring system.

CASAS Adult Life Skills - Reading (1984-89)

Purpose: To assess a learner's ability to apply basic reading skills to common everyday life situations.

Source: CASAS, 2725 Congress Street #1-M, San Diego, CA 92110; (619) 298-4681.

Costs: Special training by CASAS is required before using this test; write or call for fees and material costs. CASAS is a Developer/Demonstrator Project in the U.S. Department of Education's National Diffusion Network.

Description: There is just one section of the test. Several levels are available, AA, A, B, C, suitable, respectively, for developmentally disabled and normal beginning, intermediate, and moderately advanced adult education learners. Level C is substantially easier than the GED test. There are two equivalent forms for each level. All CASAS tests are prepared from the CASAS item bank that now has 4,000 items. The bank permits quick and relatively inexpensive construction of customized tests for given objectives and difficulty levels. There are ready-made mathematics and English listening tests available.

Reliability, Validity, and Scores: Test-retest reliability is not reported. Internal reliability has been high. The manual and other publications sent to this reviewer do not indicate studies to validate the test against other measures of life-skills reading (though a moderate correlation of .70 was found in unpublished data for the ABLE and the CASAS reading test, see Appendix A, Table A-1 of this report). Raw scores are converted to CASAS scale scores; percentiles or grade equivalents are not reported. Data are presented for average entry, exit, and gains in programs throughout California over several years. Tables in the manual also indicate the specific objective measured by each item in the instruments.

Comments: This test is also referred to as the CASAS Survey Achievement Test. It is used widely in California by state-funded ABE and ESL programs, and it is also used elsewhere. The instrument is adult in content and tone. Virtually all of the reading materials are things that most adults would find very useful in everyday living. The content, however, is exclusively life-skill oriented. There are not items that use the kinds of reading material commonly found in popular magazines, newspapers, and books. Most of the items only assess literal reading comprehension. Few require inferences or evaluation.

Though CASAS is described as a competency-based assessment system, this reading test is not suited to assessing specific competencies. That is because the specified competencies are broad in scope and seldom measured by more than two items. For instance, in Form 31 of Level A, the competency of "interpret food packaging labels" is assessed by just one item, and the competency of "identify the months of the year and the days of the week" is assessed by only two items.

CASAS Adult Life Skills - Listening (1984-87)

Purpose: To assess English listening comprehension in common everyday life situations.

Source: CASAS, 2725 Congress Street #1-M, San Diego, CA 92110; (619) 298-4681.

Costs: Special training by CASAS is required before using this test; write or call for fees and material costs. CASAS is a Developer/Demonstrator Project in the U.S. Department of Education's National Diffusion Network.

Description: There are three levels, corresponding approximately to beginning, intermediate, and advanced ESL. There are two equivalent forms at each level. A cassette tape recording gives directions or asks a question, and the learner responds by selecting one of three alternative illustrations or sentences in a booklet. At the lowest level an example is: "Look at the pictures and listen [There are pictures of : a) a sheet of paper, b) a pencil, and c) a book]. What is the correct answer - A, B, or C? Give me a pencil. Is the answer A, B, or C?" At the low level, most items require no reading by the learners except of the letters "A," "B," and "C" used to designate the three pictures. At the intermediate level about half the items require reading at about the third grade level. At the high level, most of the items require reading at about the fifth grade level.

Reliability, Validity, and Scores: Reliability data are not reported in the materials examined. However, the test has been constructed in the same manner as several other CASAS tests that have had high internal reliability. Validity data are not provided.

Comments: Validity may be questionable. Many of the items in the intermediate and high levels of the test require reading skills. It is likely that some learners who comprehend the spoken English directions and questions are unable to select the appropriate responses because of inadequate reading skills. This would be particularly true in ESL programs serving learners who are illiterate in their native language and those that focus exclusively on oral language instruction methods.

A commendable array of life-skills materials are included, and most people living in the United States would find it useful to master the listening comprehension that is measured by this test. The test is used widely in California, and is also used elsewhere.

This is one of the few tests of oral English skills that does not have to be administered to one learner at a time. But because it was designed for group administration, it only assesses passive or receptive, not interactive or conversational comprehension of oral English. It also does not assess the speaking of English. Some learners have comprehension skills substantially above their speaking skills.

English as a Second Language Oral Assessment (ESLOA, 1978-80)

Purpose: To efficiently measure the ability of non-native English speakers to understand and speak English.

Source: Literacy Volunteers of America, 5795 Widewaters Parkway, Syracuse NY 13214; (315) 445-8000.

Costs: The cue books cost \$7.25; answer sheets cost \$.04.

Description: The test is divided into four progressively more difficult levels. There is only one form of the test. The learner is judged as being at level 1, 2, 3, or 4, depending on how many levels he or she completes. At the first level, the student is shown drawings with three objects and asked questions like: "Where is the Box?" or "Which girl is walking?" The learner may respond orally or by pointing. At the second level, the learner is asked to answer simple questions and name illustrated objects. At the third level, the learner is shown drawings and asked questions such as: "What is he doing?" and "Where is she going?" The learner must respond orally, and is encouraged to use complete sentences. The learner is also orally given several sentences and asked to modify them in a specified manner, such as from statements to questions. At the fourth level, the learner is orally given sentences and asked to change them to different tenses, shown pictures and asked what is happening in them, and told of specific circumstances and asked what he or she would do in them. There also is an optional section that provides a simple means for judging spoken English in response to personal questions such as: "What television shows do you like? Why?"

Reliability, Validity, and Scores: The publisher does not have reliability or validity data. The cue book, which also serves as the manual, does not report any norm data. Lesson content is suggested for learners who score at each of the four specified levels.

Comments: This test is part of the materials prepared and distributed by Literacy Volunteers of America. Most items deal with commonly encountered objects and events, but few directly involve the activities that most occupy adults' lives - working, meal preparation, housekeeping, and child raising. The test focuses on beginning and intermediate English. People scoring at the highest level, Level 4, could easily have difficulty understanding and participating in conversational English.

The test must be administered individually. Administration is simple and is terminated when a learner misses more than a specified number of items on any of the four sections. There is no time limit; 10 to 20 minutes will usually be needed. Scoring is simple and quick.

Tests of Adult Basic Education - Forms 5 and 6 (TABE, 1957-87)

Purpose: To measure reading, writing, and mathematics achievement.

Source: Publisher's Test Service, CTB/McGraw-Hill, 2500 Garden Road, Monterey CA 93940; (800) 538-9547.

Costs: The learner test booklets cost \$1.62; answer sheets cost \$.43.

Description: There are seven sections measuring vocabulary, reading comprehension, language mechanics, language expression, spelling, mathematical calculation, and mathematical concepts/application. There are four levels corresponding in difficulty to grades 2-4, 4-6, 6-8, and 8-12. A locator test is available for matching learner skill levels to test levels. There are two equivalent forms at each level.

Reliability, Validity, and Scores: Test-retest reliability is not reported in the manuals. Internal reliability has been high. Limited validity data are reported in the manuals. The scores on the TABE have correlated moderately with comparable scores on the GED. Scores can be reported as scale scores, percentiles, stanines, and grade equivalents. The norm data are based on 6,300 learners in 223 institutions across the country. Norms are reported separately for adult basic education learners, adult offenders, juvenile offenders, and vocational/technical school enrollees. Data in the Norms Book also permit prediction of GED scores, but should be treated as rough estimates because of the moderate correlations between the TABE scores and the GED scores. The Test Coordinator's Handbook reports the knowledge and type of cognitive skill covered by each test item.

Comments: The TABE is one of the most widely used tests in adult basic education programs. It was thoroughly revised in 1986. All the items are new, the range of skill levels that can be assessed has been extended, and the specific skills that are measured are more finely divided and identified.

However, the lowest level of the test will be daunting and frustrating for most students with less than grade 3.0 skills. For instance, the first reading exercise uses a 150-word passage. Though the items are adult in content, they seem to this reviewer distinctly middle class and academic in orientation. Only a modest portion of them are about everyday events in the lives of low-income adults. For instance, in the grade 4-6 level booklet (Form 5M), only two of the eight reading passages are about experiences common to such learners. Of the 40 items on math concepts and application there is only one item on calculating the correct change for a given transaction, no item on the savings from bulk purchases, and no item on the total cost of a purchase with installment plan financing charges. The language sections are notable for focusing on paragraph construction as well as sentence structure.

This test assesses an unusually broad range of skills. Therefore, giving the full TABE takes about 4.5 hours. For this reason, many programs use only one or two sections for pre- and post-testing.

GUIDELINES FOR ADMINISTERING ASSESSMENTS

It is important that you create as comfortable an atmosphere as possible when administering any type of assessment. The following are some guidelines which may be helpful to your planning efforts.

- A. Schedule assessments at the beginning of the work day when employees are most alert.
- B. One test administrator per 15 people is optimum.
- C. Limit assessment time to no more than two hours.
- D. Make sure you have all your materials on hand.
 - 1. sharpened pencils
 - 2. pencil sharpener
 - 3. erasers
 - 4. stop watch
 - 5. scratch paper
 - 6. extra assessments
 - 7. paper clips
 - 8. folders
 - 9. stapler
- E. You should have a roster and sign-in sheet to record who was present.
- F. Physical conditions are a major consideration
 - 1. good lighting and air ventilation
 - 2. comfortable seating and writing surface
 - 3. quiet and free from distractions
 - 4. spacing between employees
- G. Establish ground rules for lavatory usage
- H. It is important that no assessment leave the testing facility. Count all assessments before and after testing session. Do not give an assessment to anybody other than employees to be assessed.
- I. Assessor should clarify and answer questions without cuing.
- J. As assessments are collected, check to make sure no parts were accidentally overlooked.
- K. Other considerations might include how you will deal with cheating, swearing, vision problems, and additional frustrations that can occur.
- L. If a person is struggling with an assessment judge quickly to see if you have obtained enough information to score. If so, allow the person to end the assessment as gracefully as possible. Make a conscious effort to keep embarrassment to a minimum.

GUIDELINES FOR CONDUCTING ASSESSMENT ORIENTATION

Most projects will require your conducting an orientation to the assessment process. The intent of these orientations are to answer employee questions concerning confidentiality and the assessment process and to establish a comfortable and safe atmosphere.

A. Emphasis should be placed on the following issues:

1. Management support of the employee's participation in the assessment process and their commitment to provide any necessary training.
2. Assessments are tools that look for strengths and weaknesses and measure people's skill in specific areas.
3. Assessments will be used to determine where/if employees will need training to build or improve skills.
4. Explanation of confidentiality policy, who will see the results and how they will be used.
5. In some instances, sample assessments may be given out for practice and to reduce some of the employee anxiety that is to be expected. Samples should be consistent with actual assessment.
6. Provide an outlet for employees to ask questions in private if they so desire.

B. Physical layout

1. Have the audience close to the speaker with as few barriers as possible.
2. Keep the atmosphere informal but controlled.
3. Make sure the lighting is adequate and that everyone can hear.
4. Have audio-visual equipment available and in working order.

C. Attendance (optional)

1. Have a representative from management attend to introduce the staff conducting the assessments, to explain the connection to work and to demonstrate managements commitment to the project.
2. You may also want a personnel representative to attend as well as a union or employee representative and the educational liaison.
3. The program assessor/instructor should be available to answer specific questions.

D. Other important considerations

1. You should know in advance how many people you will talk with, how many orientation sessions you will conduct, which departments are involved and what are the job levels.
2. Hold the orientations during shift meeting or at a time convenient for the workplace.
3. Allow 15 - 20 minutes at the end of your presentations for questions.

E. Suggested format for assessment orientation

1. Introduction from manager. The manger and those responsible for the orientation should meet beforehand to prepare. **KNOW WHAT THE MANAGER IS GOING TO SAY.**
2. Explanation of what an assessment is and is not.
3. Rationale for an assessment. You may want to review the findings of your job task analysis at this point if you have not already done so. Ask for comments and any corrections that may be necessary.
4. Offer reassurance as to how the assessments will be used, Who will receive and view results and how group profiles will be presented to management. (Give an example)
5. Address the company's confidentiality policy. Hand out a copy if appropriate and agreed to by management.
6. Hand out sample assessments and explain their purpose and use.
7. Question and answer period.

SOURCE: Developed by Dallas County Community District, Richland College.

GUIDELINES FOR WRITING ASSESSMENTS

ASSESS FROM THE PARTICULAR TO THE GENERAL

BUILD IN SUCCESS TO THE INSTRUMENTS

ASSESS ALONG A CONTINUUM—BASIC > INTERMEDIATE > DIFFICULT

KNOW YOUR AUDIENCE: TOO DIFFICULT IS DISCOURAGING, TOO EASY IS INSULTING

BE SPECIFIC WITH INSTRUCTIONS. USE DIRECTIONS THAT ARE SIMPLE, CLEAR, AND THAT ASK FOR WHAT YOU WANT.

DOCUMENT WHAT AND WHY YOU DESIGNED YOUR INSTRUMENT A PARTICULAR WAY

ASK YOURSELF: WHAT IS THIS ITEM TESTING?
DOES IT DO THIS EFFECTIVELY?
IS THERE BIAS IN THE ITEM TO ANSWER A CERTAIN WAY?
DO I NEED TO "UNPACK" LONGER ITEMS TO GET AT
SPECIFIC SKILLS/DETAILS?

USE EXAMPLES WHEN APPROPRIATE TO ILLUSTRATE WHAT YOU ARE LOOKING FOR.

PRINT USED SHOULD BE LEGIBLE, LARGE AND EASY TO READ. PROOF READ FOR ACCURACY AND READABILITY.

THE COVER PAGE SHOULD CONTAIN A TITLE AND IDENTIFYING INFORMATION SUCH AS NAME, DATE, ID NUMBER, DEPARTMENT, ETC.

USE LINED PAPER FOR WRITING SAMPLES.

TESTS OF BASIC SKILLS FOR IDENTIFYING INDIVIDUAL NEEDS*

**Minimum Competency or Lower-Level Performance
(Sixth Grade Reading or Lower)**

- Adult Basic Learning Examination (ABLE); (11)
- Adult Performance Level Program (APL); (11)
- Basic Skills Assessment; Minimum Competency Tests (BSA); (11)
- Brigance Diagnostic Inventory of Essential Skills—Individual (IES); (11)
- Cornell Tests of Basic Skills: Arithmetic, Mathematics and Reading Comprehension (CTBS); (4)
- Everyday Skills Test (EST); (6)
- Minimum Essentials Test (MET); (17)
- Objectives-Referenced Bank of Items (ORBIT); (6)
- Rapid Assessment—The Numerical Assessment Unit (NA); (14)
- School Curriculum Objective Referenced Evaluation (SCORE)—Adult Literacy
- SRA—Reading and Arithmetic Indexes (SRA); (16)
- Tests of Adult Basic Education—(TABE) level E; (6)

Tests of Basic Skills for Identifying Individual Needs

- 10,000 Item Test Bank (ETS)—custom-made test of basic skills; (9) and Wide-Range Achievement Test (WRAT); (13)

Basic Skill and High Level Performance

- Adult Basic Learning Examination (ABLE); (11)
- California Achievement Test—Levels 14-19 (CAT); (6)
- Comprehensive Tests of Basic Skills (CTBS); (6)
- Diagnostic Reading Tests (DRT) survey section; upper level; (6)
- Flanagan Industrial Tests (FIT) arithmetic, math and reasoning, test and vocabulary, judgement and comprehension test; (16)
- Gates-MacGinitie Reading Tests (GATES)—level F test; (12)
- National Assessment of Educational Progress (NAEP)—released math exercises; difficulty level determined locally by items selected; (7)
- Nelson-Denny Reading Test (NDRT); (12)
- SRA Achievement Series: Math and Reasoning (ACH)—level H; (16)

Tests That Have Performance Referenced, Occupationally Referenced, Or Mastery Levels Of Skills That Are Indicated In Score Results

- Basic Skills Assessment; Minimum Competency Tests (BSA); (1)
- Brigance Diagnostic Inventory of Essential Skills (IES); (5)

Tests of Basic Skills for Identifying Individual Needs

- Cognitive and Conceptual Abilities Test (C-CAT)—levels cross-walked to Dictionary of Occupational Titles (DOT) codes; (14)
- Cornell Tests of Basic Skills: Arithmetic, Mathematics and Reading Comprehension (CTBS)—Score breakouts by secondary program area under development; (4)
- Diagnostic Mathematics Inventory (DMI)—Master Reference Guide of Performance objectives must be ordered (DMI); (6)
- Diagnostic Reading Tests (DRT) survey section; (3)
- Enright Diagnostic Inventory of Basic Arithmetic Skills; (5)
- Everyday Skills Test (EST); (6)
- Flanagan Aptitude Classification Tests (FHCT)—score levels for different clusters of occupations; (16)
- Industrial Reading Tests (IRT)—only one with average number correct answers by groups of high school students in several occupational curricula; (11)
- Metropolitan Achievement Test (MAT)—if instructional test component is also used and publisher's scoring service ordered; (11)
- Minimum Essentials Test (MET)—math section (17)
- National Assessment of Educational Progress (NAEP)—released exercises of math must be used with Instructional Objectives Catalog; (7)
- Rapid Assessment-The Numerical Assessment Unit (NAU); (14)
- School Curriculum Objective Referenced Evaluation (SCORE)—Related to adult literacy objectives; (12) (15)
- Tests of Achievement in Basic Skills (TABS); (8)

Please Note: The numbers in parenthesis refer to a list of publishers and their addresses which can be found on page 5.16 of this handbook.

APPROACHES TO LEARNER ASSESSMENT

Type	Features
I. Standardized Testing	- o Norm Referenced - o Literacy as reading skills - o Grade equivalent scores - o Administrative usability - o Cost-effective - o Independent of curriculum
II. Materials-based	- o Commercially available - o Related to progress in predetermined materials - o Literacy as reading skills - o Systems management model
III. Competency-based	- o Specific real-life tasks - o Predetermined standards of performance - o Competence in defined areas - o Continuum of difficulty - o Administered frequently for feedback and advancement - o Broad range of strategies possible
IV. Participatory	- o Processes and products - o Literacy as practices and critical reflection - o Range of texts, tasks, and contexts - o Active role of learners - o Co-investigation - o A form of teaching - o Ongoing - o Broad range of strategies possible

SOURCE: Lytle, S. L., and Wolfe, M. (1989). Adult Literacy Education: Program Evaluation and Learner Assessment. Washington, DC: (ERIC Document Reproduction Service)

APPROACHES TO PROGRAM EVALUATION

TYPES	*Single site/multisite *Formative/summative *Implementation/impact
PURPOSES	*Plan *Secure and maintain funding *Provide staff development *Improve instruction *Allocate resources *Assess research utilization *Compare perspectives of stakeholders
LEVELS	*Single program *Citywide system *State system *National
EMPHASES	*Program mission and goals *Learner experiences and outcomes *Instruction *Staff development *Culture of program as workplace *Enrollment/recruitment/retention *Grouping practices *Written curriculum *Materials utilization *Community relations and outreach *Governance and management *Financial resources and expenditures *Support services *Referral systems *Recordkeeping
METHODS	*Observation *Interviews (group and individual) *Site visits *Surveys and questionnaires *Document/statistical analysis *Logs and journals *Audio and video recordings *Case studies

SOURCE: Lytle, S.L., and Wolfe, M. (1989). Adult Literacy Education: Program Evaluation and Learner Assessment. Washington, D.C.: (ERIC Document Reproduction Service).

CLOZE EXERCISE

The attached is a cloze exercise that was used with the garment workers/students. This reading is an overview of various topics included in the Workplace English program curriculum.

Every ninth word has been removed from the reading. Students are asked to fill in a word that completes the sentence. Answers that are logical are counted as correct answers even if the answer is not an identical match to the original reading.

Mastery of this exercise is 80% correct answers. Functional ability is demonstrated by 60-80% correct answers. Non-functional ability is demonstrated by less than 60% correct answers.

Fill in one word for each blank. Choose a word that fits from the attached list of words.

A GARMENT WORKER

I am a garment industry worker. I work _____ day to make clothing. I work eight hours _____ day. My work day is a busy one. _____ is always work to do.

My plant produces _____. I use a sewing machine to sew the _____. My machine is very important to me. I _____ use other tools like scissors. I could not do _____ job without these tools.

When my machine breaks _____, my work stops. This can mean that I _____ not do as much work. My pay check _____ be smaller for the week. I try to _____ a mechanic to fix my machine quickly. The _____ usually asks me questions about my machine. The _____ always asks what the machine was doing before _____ stopped.

Sometimes it is not necessary to call _____ mechanic. I know how to make basic repairs _____ my machine. I can change needles and adjust _____ tension.

My machine is very important to me. _____ I finish working, I always clean my area _____ machine. The machine operates better if it is _____.

I can only work as fast as my _____ works. I cannot give up quality for speed. _____ am always watching for any mistakes that I _____ make. Sometimes my supervisor talks to me about _____ quality of my work. I know that I _____ a good reputation for doing quality work.

Quality _____ an important part of my work. Other workers and _____ check our work. It is important that the _____ is correct. If the work is not correct, _____ the jeans will not sell in the stores. _____ quality product protects my job.

Sometimes there are _____ at the plant. Then I have to learn _____ new. I am always learning about a new _____ to work. I had to learn to operate _____ new machine two weeks ago.

At my plant _____ are safety rules. One rule is to leave _____ devices on the machines and equipment. These safety _____ are there to protect me. Safety is important _____ me. I follow the rules to protect myself _____ others.

I get paid each week. My pay _____ by the hour. I like getting paid each _____. My pay check is almost the same amount _____ week. If it is too small, I talk _____ my supervisor. I don't get overtime. I don't _____ to work overtime.

The benefits at work are _____ money to me. The most important benefit is _____ medical insurance. My family uses this benefit all _____ time.

My mother worked for the garment industry. _____ sewed men's shirts at a shirt factory. I _____ the work I do. I know the _____ I make ar sold in stores all over _____ world. Somedays I feel like I am making _____ for the whole world.

There are many garment _____ workers like me in America. Our industry has _____ in some ways. New machines and new ways _____ working have changed my workplace. I think many _____ are coming in the future.

You may use some of these words more than once. Some of these words you may not use at all.

also	industry	the
a	if	to
am	I	then
an	is	there
and	items	that
allows	it	tool
another	jeans	
by	kind	up
bear	like	under
boss	love	
changes	man	when
can	might	work
call	may	way
clothing	mechanic	want
changed	manager	week
change	my	write
dirty	machine	your
device	new	
devices	not	
dollars	nine	
down	other	
do	over	
every	on	
each	our	
eight	of	
factory	pay	
future	pieces	
fast	person	
guards	pins	
gets	pants	
get	quality	
how	red	
had	read	
he		
have	she	shirts
hard	safety	something
has	supervisor	someone

ANSWER KEY

Fill in one word for each blank. Choose a word that fits from the attached list of words.

A GARMENT WORKER

I am a garment industry worker. I work each day to make clothing. I work eight hours a day. My work day is a busy one. There is always work to do.

My plant produces jeans. I use a sewing machine to sew the jeans. My machine is very important to me. I also use other tools like scissors. I could not do my job without these tools.

When my machine breaks down, my work stops. This can mean that I do not do as much work. My pay check could be smaller for the week. I try to call a mechanic to fix my machine quickly. The mechanic usually asks me questions about my machine. The mechanic always asks what the machine was doing before it stopped.

Sometimes it is not necessary to call a mechanic. I know how to make basic repairs to my machine. I can change needles and adjust bobbin tension.

My machine is very important to me. When I finish working, I always clean my area and machine. The machine operates better if it is clean.

I can only work as fast as my machine works. I cannot give up quality for speed. I am always watching for any mistakes that I might make. Sometimes my supervisor talks to me about the quality of my work. I know that I have a good reputation for doing quality work.

Quality is an important part of my work. Other workers and I check our work. It is important that the work is correct. If the work is not quality, then the jeans will not sell in the stores. A quality product protects my job.

Sometimes there are changes at the plant. Then I have to learn something new. I am always learning about a new way to work. I had to learn to operate a new machine two weeks ago.

At my plant there are safety rules. One rule is to leave safety devices on the machines and equipment. These safety devices are there to protect me. Safety is important to me. I follow the rules to protect myself and others.

I get paid each week. My pay is by the hour. I like getting paid each week. My pay check is almost the same amount each week. If it is too small, I talk to my supervisor. I don't get overtime. I don't like to work overtime.

The benefits at work are like money to me. The most important benefit is the medical insurance. My family uses this benefit all the time.

My mother worked for the garment industry. She sewed men's shirts at a shirt factory. I like the work that I do. I know the jeans I make are sold in stores all over the world. Somedays I feel like I am making jeans for the whole world.

There are many garment industry workers like me in America. Our industry has changed in some ways. New machines and new ways of working have changed my workplace. I think many changes are coming in the future.

ASSESSMENT: REVIEW OF THE LITERATURE

Assessment and evaluation are the framework for a strong essential skills program. Assessment is often used synonymously with evaluation and yet that is a misconception. While the assessment process is an integral forerunner to a well planned program evaluation, they are not one in the same. According to Anderson, et. al. (1975):

Assessment . . . is frequently described as multi-trait, multi-method; that is it focuses on a number of variables judged to be important and utilizes a number of techniques to assay them (Tests, Questionnaires, Interviews, Ratings, Unobtrusive Measures, etc.). Its techniques may also be multisource (data on the same variable may be collected from trainers, instructors, and course records; and/or multijudge (ratings of the same trainee performance may be obtained from several assessors, whose judgments are then pooled or averaged) (p. 27).

Essentially, then assessment relates to the practice of gathering data and interpreting it in order to make judgments. A definition of assessment, as it applies to adult learners can be found in the TEA Primer (1990) which indicates that assessment is "the process of gathering data for decision-makers on how well an individual(s) can perform a task(s) (p. 1). Evaluation, on the other hand, is "both a judgement on the worth or impact of a program, procedure, or individual and the process whereby that judgement is made" Dressel (1976, p. 1). Evaluation, as it applies to the workplace is viewed by Carnevale, et. al. (1990), "as a process which must be keyed to discovering the most appropriate and cost-effective training response and to illustrate how that training helps the organization meet its strategic goals" (p. 418).

Some other terms that are appropriate to the discussion of assessment and evaluation include:

Testing: "The act of gathering and processing evidence about human behavior under given conditions for purposes of understanding, behavior" (Bloom, 1970, p. 38).

Diagnosis: "The core of diagnosis is evaluating the learner's abilities, interests, and achievements, identifying strengths, weaknesses, and areas of recommended change" (Clymer-Walvekar, 1981, p.83).

Measurement: "Determining the degree to which an individual possesses a certain attribute with the assignment of some type of numerical index" (Popharn, 1975, p. 9).

A clear understanding of the uniqueness of both the assessment and evaluation components is vital to an effective workforce literacy program. It is crucial that the developer of the assessment and evaluation portions of the workforce literacy program understand how these two

program components are integrated.

In practice, needs assessment is the first step in the assessment and evaluation process. Initially, it is helpful to "test the waters", of support for the program with the business partner. Rothwell and Brandenburg (1990) propose three questions for assessing support for an essential skills program:

1. **Awareness:** Are members of the organization aware of basic skills problems among employees and/or applicants?
2. **Culture:** Has the organization historically backed human resources issues?
3. **Dominant coalition:** Do top managers favor efforts to correct employees' basic (essential) skills problems? (p. 55-56).

The literature provides a great deal of information regarding the process of conducting employer needs assessment (Carnevale, et.al., 1990; Rothwell & Brandenburg, 1990; The Bottom Line, 1988). The primary focus of assessing needs of employers involves the formulation of basic questions addressing workplace literacy issues that are posed to the company representative.

If the results of this investigative questioning do not indicate need and support for a workplace literacy program, then the assessment process is finished. If need and support are evidenced, then the assessment process continues with employee or learner assessment.

The majority of the literature available has given its primary focus to learner assessment. Lytle and Wolfe (1989) express their approaches to learner assessment in four methods: standardized testing, materials-based, competency-based, and participatory. (see Appendix 3.10 for more information). Irwin S. Kirsch with Educational Testing Service refers to three approaches used to assess literacy in this country as;

1. **The traditional approach** - equating "functional literacy" with the attainment of certain grade-level scores on standardized tests of reading achievement.
2. **The competency-based approach** - measuring literacy based on materials actually associated with adult contexts, researchers attempt to produce information based on adult materials.
3. **The profiles approach** - A focus on "real world" materials. The assessment identifies a range of uses or purposes that adults have for reading these various materials. The resulting interaction between uses and materials serves as the framework for developing tasks that correspond to the various levels and types of information processing demands associated with various adult environments.

The Traditional Approach to Assessment

In reviewing recent literature on the use of standardized testing in a nonschool, adult setting, few sources support the continued use of standardized testing assessment. Lytle, Belzer, Schultz, and Vannozzi (1989) state:

Current traditional assessment procedures-by which we mean standardized tests and other outside-in methods that make adults the object of someone's scrutiny have two drawbacks: They fail to capture the richness and complexity of adult learning, and they reinforce a view of literacy as a set of autonomous, technical skills divorced from meaningful context (p. 54).

Kirsch notes a problem in the use of standardized tests when:

... people began equating "functional literacy" with the attainment of certain grade-level scores on standardized tests of reading achievement. ... The practice of using grade-level scores to understand the literacy problems facing adults in this country carries with it certain assumptions and limitations. Grade-level scores are usually determined from the average performance of an in-school norming sample over a particular set of reading passages and multiple-choice questions. These samples typically are comprised of children of various ages and grades attending schools throughout the country (p. 3).

This means the use of standardized tests in assessing the needs of adults presents problems with regard to the inaccuracy of grade levels normed on children.

The problems with the use of standardized tests are further identified by Lytle, Belzer, Schultz and Vannozzi, (1989):

The diagnosis of reading ability as grade levels is misleading, and it often confuses and discourages adults, who may drop out of programs because they find the tests embarrassing, stressful, and reminiscent of past failures in school. Assessment, both initial and ongoing, is important to adults themselves who are seeking some assurance that their efforts to learn have been successful. When teachers are testers and the instruments are limited to quantitative descriptions of skills and deficits, the process of assessing learning becomes onerous and self-defeating (p. 54-55).

Thomas Sticht (1991) furthers the argument against standardized tests. He states:

While obtaining convincing outcome data is difficult because it is not the highest priority for workplace literacy teachers and adult learners, the problem is compounded by the fact that hundreds of millions of dollars are spent each year on standardized tests

and other assessment instruments, throughout the education system in the U.S., and yet no one is satisfied that they are actually obtaining valid information about "true" achievements. This is indicated by the fact that today there are several national activities underway to develop new national examinations to obtain a more valid indicator of how well the nation is doing in education (p. 8).

It seems innocuous to conclude that even the finest educators in the emerging field of workforce literacy are satisfied with relying on the use of standardized tests for assessment. In addition, educators, union representatives and business people are becoming more concerned with the legal ramifications implicated in the use of standardized tests. These legal concerns are covered in greater detail in the management section.

Apparently, then, educators concerned with the workforce literacy audience have some work to do to adequately meet the assessment needs of program participants and business associates. Now the question is how can educators give a measurable bottom line to business without a viable assessment tool? The answer to this dilemma is not clear and certainly calls for further research as suggested by Thomas Stich (1991).

Sticht provides information about eight standardized tests (or test systems) that are in wide use in ABE and ESL programs. These include the Adult Basic Learning Examination (ABLE), the Basic English Skills Test (BEST), the Comprehensive Adult Student Assessment System (CASAS) ABE and ESL tests, the English as a Second Language Oral Assessment (ESLOA), the GED Official Practice Tests, the Reading Evaluation Adult Diagnosis (READ) test, and the Tests of Adult Basic Education (TABE). The summaries of the ABLE, BEST, CASAS, ESLOA, and the TABE are included in Appendix A 3.7. This report addresses the public concerns with standardized testing and also gives a review of the U.S. Department of Education's Statement on Standardized Tests.

Perhaps the controversy over standardized tests is best summarized, however, in a recent newsletter article from the BCEL (January 1990):

Assessment in adult literacy is a central issue with high stakes. The authority vested in these tests can determine the way programs are developed, what is taught, and the climate of teaching and learning. It shapes legislation and the funding policies of public and private agencies. It is tied to welfare eligibility for young parents. It drives government job training programs. It can deny entry into the military, or crucial access to a diploma or a job.

The growing concern of literacy service practitioners, theorists, and test designers, among others in the field, is sparking much debate and a hard look at just what standardized tests actually test and for what purposes, and whether they are not harmful. It is also beginning to result in a search for alternative assessment approaches (p. 11).

Ultimately, the education provider in partnership with the business it is serving will have to make a decision on the standardized testing issue as it applies to their specific program. Educational research will have to embrace this issue and push to further the knowledge of the use of traditional assessment or find acceptable alternatives to meet the workforce literacy needs.

The Competency-Based Approach to Assessment

The competency-based approach to assessment is a promising alternative to standardized testing. The TEA Primer (1990) summarizes competency-based assessment as "testing which reflects instructional programs designed specifically to develop certain competencies that are usually dictated by the demands of a job, or other placement desired by the student" (see Appendix A3.6, p. 3).

According to Kirsch (1987, p. 6) competency-based assessment is a shift from child-normed standardized tests:

During the 1970's, national performance surveys...the most publicized of these national surveys being the Adult Performance Level Project (APL) measured in addition to reading and writing skills, computation, problem solving, and interpersonal skills as they interact with the areas of occupational knowledge, consumer economics, health and law.

For each of these surveys, nonschool types of materials were sampled and used to develop tasks which were field-tested and then administered to various national samples. By analyzing responses made to these tasks, researchers could estimate the proportion of the adult population that could perform such tasks successfully; they could also determine the extent to which various background characteristics, such as educational level, race, gender, and income level relate to these various percentages. . . . It was believed that this type of information would better inform policy-makers and educators as to the adult literacy problems in this country.

While these approaches to assessing adult literacy represent a significant improvement over traditional school-based measures of reading achievement, they also share some of the same assumptions and limitations.

In light of such limitations, the qualitative approach to assessment is gaining momentum in the workforce literacy field.

The Qualitative Approach to Assessment

The profiles approach is an innovative qualitative approach to learner assessment. Lytle, Belzer, Schultz and Vannozzi (1989) describe this evolution and define it as:

A profiles approach, or learner-centered literacy assessment has evolved out of a struggle to identify alternatives more compatible with the purposes of participatory education. . . . In learner-centered assessment, adults are very actively involved. They structure the process and join with staff and other students to investigate their own literacy practices in ways that link directly to instruction and that may in turn be integrated with instruction (p. 55).

Michael Quinn Patton (1980) describes his view of qualitative assessment:

Evaluation research is different things to different people and if we answer all evaluation questions, we must understand the options available. Thus, eventually evaluation research will become a "paradigm of choices" (p. 87). A paradigm of choices is the crux of qualitative, or what is sometimes called naturalistic evaluation, because the evaluator is not concerned with standardization. "Qualitative data consists of detailed descriptions of situations, events, people, interactions, and observed behaviors; direct quotations from people about their experiences, attitudes, beliefs, and thoughts; and excerpts or entire passages from documents, correspondence, records, and case histories. . . . Qualitative measures permit the evaluation researcher to record and understand people in their own terms. Qualitative data provide depth and detail" (Clymer-Walvekar, C., 1981, p. 22).

Patton further suggests that qualitative research be used in the following situations:

- * Highly individualized, personalized, and humanistic programs.
- * Programs that serve diversified clientele.
- * Programs concerned with understanding and developing program processes, operations and staff.
- * Programs concerned with improving the quality of the program and services it provides.
- * Administrators concerned with the inappropriateness of standardized measuring instruments and lack of valid measures due to many variables that influence the program.
- * Decision makers who are interested in evaluations that provide useful information (Ibid, p. 88-89).

This assessment approach takes on a focus of "real world" materials. In addition, based on a growing body of research (Health, 1980; Mikulecky, 1982; Kirsch & Guthrie, 1984; Sticht, 1978), the assessment then identifies a range of uses or purposes that adults have for reading these various materials. The resulting interaction between uses and materials serves as the framework for developing tasks that correspond to the various levels and types of information processing demands associated with various adult environments (Kirsch, 1987).

Various examples of participatory assessment can be found in the resource section of this chapter.

Lytle, Belzer, Schultz, and Vannozzi (1989) express their view of the process that educators may have to experience in order to effectively utilize this approach:

Participatory approaches to assessment evolve from critical reflection on current practice and raise broad questions about literacy teaching and learning that have implications for many aspects of program development. . . . participatory assessment may be encouraging or empowering for adult learners at the same time that it causes conflict by creating new roles and power relationships for staff and students. Engaging in the process of developing participatory assessment procedures has meant uncovering previously unexamined and even conflicting ideologies about literacy education (p. 54).

Conclusion

As the field of workforce literacy continues to mature, so does our understanding of its assessment needs. Educational providers need to challenge themselves to be more diverse in their thinking and more open to additional assessment techniques than in the past. Educators are attempting to assess a whole new group of adult workplace learners, whose uniqueness deserves a fresh look at the current assessment options as well as those yet to be developed.

EVALUATION: REVIEW OF THE LITERATURE

Definition of Evaluation

While there are many different definitions of evaluation, common to most of them is the concept of judging the worth or value of a program through the collection of information.

The Workplace Literacy Primer defines evaluation as "the process of demonstrating value for the purpose of making decisions about an intervention" (p. 293).

Carnevale, Gainer and Meltzer (1990) state:

A good evaluation system identifies program procedures for collecting, interpreting, and reporting data and specifies when and from whom program data will be collected. Such a system ensures the means for gathering information that the evaluator will use to compare behavior before and after training and draw conclusions (p. 418).

Ideally, evaluation design should be planned during the initial program assessment, for it is essential that the program evaluation reflect the goals and objectives of the essential skills program. In setting up an assessment process, the evaluator must plan to gather the information needed to evaluate whether or not the programs objectives have been accomplished and how well.

All too often, however, educators procrastinate on the evaluation design and it becomes a "knee jerk" response of crisis management. Carnevale, et al., (1990) further suggest "monitoring and evaluation should be viewed as 'living processes' " (p. 424). Together, they provide the information for adjusting and improving the program design to assure efficient, effective delivery of the basic workplace skills training program.

Purpose of Evaluation

Evaluation should be the activity that promotes unity in an essential skills program. Lack of understanding of the purpose of evaluation is part of the reason "evaluation" has a name that produces negative responses. "Many times we are unsure of the purpose of the evaluation and we are not certain of the improvements that will have been made as a result of our participation "(Clymer-Walvekar, 1981, p. 77). If program evaluation is implemented as a dynamic process with input from all, then evaluation can be used as a tool instead of a weapon.

Lytle and Wolfe (1989), do a good job of outlining the following purposes for evaluation as they apply to workforce literacy;

1. Basis for future planning.
2. Basis to secure and maintain funding for the program, whether it is paid for by the company or even grant funding of some type.
3. Provides the necessary ground work for planning staff development needs.
4. Basis on which to improve instruction.
5. Assists the program coordinator in choosing the most appropriate areas to allocate resources.
6. Provides the framework to assess research utilization.
7. Provides the information needed to compare perspectives of individual members of the partnership.

Types of Evaluation

There are two basic types of evaluation: formative and summative. Formative evaluation allows for the adjustment of plans, reallocation of resources and other management decisions. This type of evaluation is needed to keep a program interactive with its audience. Frequently, formative evaluation is used to measure learners' progress during training. It provides information to the learner and instructor as input to the efficient management of the learning process (Brandenburg, D. & Sheffield, J., 1990, p. 99).

Summative evaluation, on the other hand, indicates the attributes and shortcomings of the program at the time the plan of operation was developed. It allows the evaluator to measure how effectively program outcomes were met and provides an opportunity to assess the viability of program replication. Summative evaluation is the type of "finale" historically given to the evaluation process. While it is still an integral part of the evaluation picture, it is most important that it be coupled with a formative evaluation approach.

Issues of Evaluation

In conducting program evaluation at the worksite, there are several issues that the evaluator needs to consider in planning an evaluation system. Lytle and Wolfe (1989, p. 39), Adult Literacy Education: Program Evaluation and Learner Assessment, address issues related to "single site" and "multi-site" evaluations.

In dealing with an essential skills program at one site, it is optimal to have easy access to the program and the employees of the business for feedback and time efficiency, as well as the access to the cultural climate of the office. If evaluation of a program is taking place at more than one site, it is essential that each site be reviewed individually. Below are some questions for consideration:

1. What is the union/non-union status of each site?
2. How does the company representative impact the program at each site?
3. What is the corporate climate at each site? Is there a sense of trust between the employer and employee?
4. Are the facilities at each site comparative and conducive to learning?
5. Are the same shifts being served at each site? Should they be addressed in a similar or different manner?
6. How are class participants perceived by their fellow workers? Is it an environment of support or one of ridicule?

Many factors aside from actual classroom instruction can skew an evaluation outcome. This is not an exhaustive list, but the evaluator should consider these factors in setting up and evaluating the type of evaluation instrument/process to be used by site and/or entire programs.

The level of management of the essential skills program also impacts the evaluation process and product. Lytle and Wolfe (1989, p. 39) indicate the four following management levels:

1. Single Program Offering Is this a one-shot-deal, or does the company need an evaluation method that will serve as a spring board for future training. In a single program offering, it is important that the provider get the evaluation information that is needed for future program improvement, even if the business does not require program evaluation.
2. Citywide System What is the cultural make-up of this community, does it impact on the company and/or educational provider. What does the community want to learn from this partnership.
3. State or Federal System Both state and federally funded programs have specific criteria for backing an essential skills program. It is imperative that the educational provider take these regulations into account in designing an appropriate evaluation system.

Evaluation Implementation

Implementation of an evaluation component, requires appropriate planning by both the educational partner and the business representative. It is important to look at the implications and impact the evaluation process has on the business, the educational provider and, most importantly, the program participant.

Finally, Lytle and Wolfe (1989, p. 39) offer the following possibilities for program evaluation emphasis:

- Program mission and goals
- Learner experiences and outcomes
- Instruction
- Staff development
- Culture of program within the workplace
- Enrollment/recruitment/retention
- Grouping practices
- Written curriculum
- Materials utilization
- Community relations and outreach
- Governance and management
- Financial resources and expenditures
- Support services
- Referral systems
- Recordkeeping

Summary

In sum, the literature reflects that evaluation is a tool for decision making to be used to improve the program, resolve problems, and modify the program as needed. Evaluation must be an interactive part of the essential skills program in order to discover the most appropriate, cost-effective training response and to illustrate how the training helps the organization meet its strategic goals.

ASSESSMENT AND EVALUATION REFERENCES

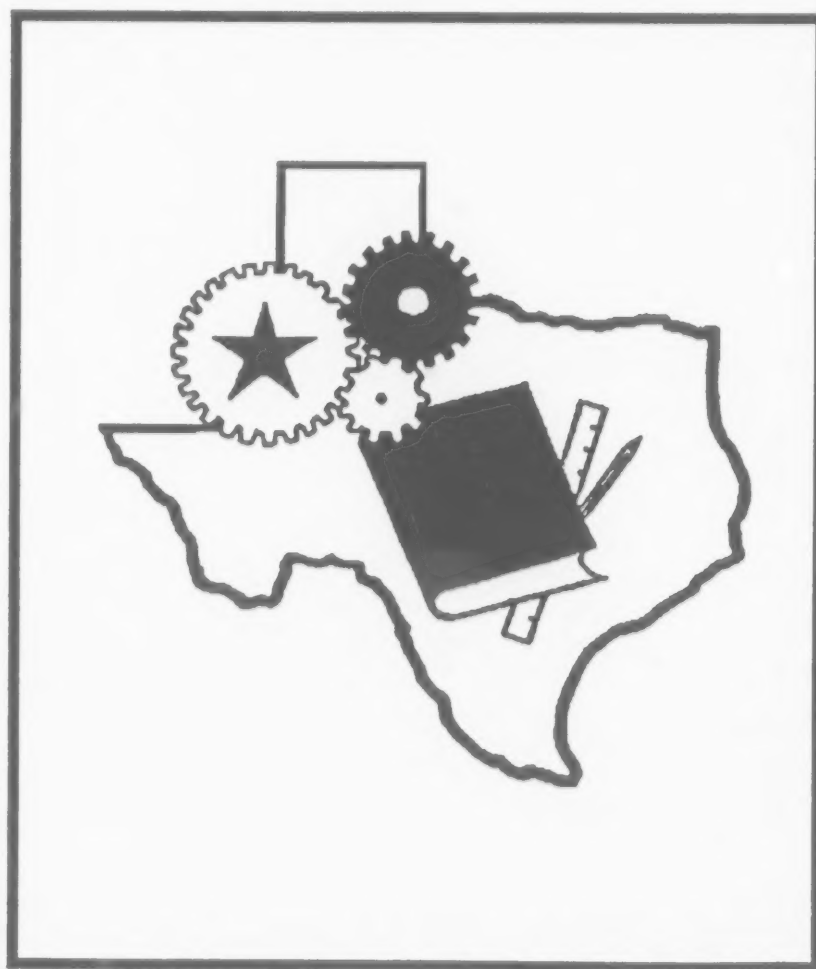
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Curriculum and Instruction



CURRICULUM AND INSTRUCTION: OVERVIEW

This section of the handbook focuses on providing the workforce literacy specialist with information on the curriculum development and instructional development processes in order that intervention can occur. The following topics will be reviewed:

- Curriculum definitions
- Nature of workforce literacy curriculum
- Curriculum design and development for workforce literacy
- Partnership roles in the curriculum development process
- Instruction
- Considerations for planning instruction in the workforce
- Instructional strategies used in the workforce
- A review of literature regarding curriculum and instruction in the workplace

CURRICULUM DEFINITIONS

Zais (1976), a curriculum theorist, observes that most curriculum writers, developers, and theorists use "curriculum" in two ways: 1) to indicate a plan for the education of a learner, and 2) to identify a field of study. For the purpose of this handbook, curriculum will be defined as a plan.

According to Zais (1976, p. 11), curriculum varies from being a curriculum document or inert curriculum to a functioning, live or operational curriculum. The shape or form a curriculum will take varies according to its purpose.

Zais (1976) provides several **definitions of curriculum** that are helpful in understanding curriculum:

- Curriculum design most commonly refers to the arrangement of the components or elements of a curriculum.
- Components of a curriculum include: 1) aims, goals, and objectives, 2) subject matter or content, 3) learning activities, and 4) evaluation.
- Curriculum construction is the decision making process that involves the determination of the nature and organization of curriculum components.
- Curriculum development is concerned with the processes of construction.
- Curriculum implementation (instruction) is putting into effect the curriculum that was produced by the construction and development processes. (pp. 1 - 21).

Sequel (1966, pp. 180-184) suggests that the curriculum movement has been characterized by interest in four "especially persistent and significant" problems: 1) the nature of knowledge, 2) the nature of knowing, 3) the domain and limits of the new specialization, curriculum and 4) the translation of curriculum principles and theories into educational practice. In other words, curriculum changes constantly. Zais (1976) additionally argues that the philosophical assumptions one makes about the foundations of curriculum (epistemology—the nature of knowledge, society/culture, the individual, and learning theory) impacts the organization and development of the curriculum components: 1) aims, goals, and objectives; 2) content; 3) learning activities; and 4) evaluation.

Most educators have had the experience of developing curriculum for a program or course, and most follow these **general steps**:

- determine need for curriculum (needs assessment)
- determine aims, goals, and specific objectives for the curriculum
- determine the specific content of the curriculum and outline general learning activities or courses
- determine the evaluation plan to assess the efficacy of the program/course
- outline resources to be used for achieving aims, goals, and objectives; content; and activities

NATURE OF WORKFORCE LITERACY CURRICULUM

Curriculum developers and designers for literacy (essential skills) in the workforce follow the same general steps that educators and curriculum designers have generally followed. Due to the relatively recent emergence of the field, certain steps or aspects are being addressed with high visibility in the literature. The needs assessment component includes both "job tasks analysis" and "literacy audit" that were presented in the assessment and evaluation section of this handbook. Both these processes determine the content of the curriculum. The integration of the knowledge/skills/tasks/subtasks (found through the job tasks analysis) and the processes/basic skills/information processing skills (found through the literacy audit) determine the "functional context" curriculum and ultimately the instructional strategies.

In other sections of this handbook several **characteristics** of workforce literacy have been noted:

- A.** Curriculum includes an expanded definition of basic or essential skills for the workforce:
- learning to learn processes
 - reading, writing, and computation skills
 - listening and oral communication skills
 - creative thinking and problem solving processes
 - self-esteem and goal setting strategies, and personal and career development
 - interpersonal, negotiation, and teamwork skills
 - organizational effectiveness and leadership skills
- B.** Curriculum centers around:
- job tasks of a specific job or job family
 - company's need to improve quality, productivity, safety
 - individual worker's needs
- C.** Curriculum utilizes:
- job task analysis and literacy audits as components of the needs assessment
 - job-specific instructional materials
 - job-specific assessment instruments and strategies

D. Programs center instruction around:

- competencies/tasks (both knowledge and processes)
- job tasks knowledge with basic (essential) skills to create functional context curriculum

E. Instruction focuses on the processes of:

- “how to”
- learning to learn
- modeling
- metacognition (self-awareness) skills
- self-monitoring
- self-correcting strategies

F. Instructional strategies:

- focus on team building, problem solving strategies, interpersonal skills, creative and critical thinking skills
- build new knowledge, skills, and processes to prior knowledge, skills, and processes to insure continuity
- assist participants in relating what they are learning to their job performance
- assist participants in understanding how the processes they are learning can be utilized in other aspects of their future job tasks and career development opportunities

The efficacy of the curriculum and instruction components of workforce literacy are dependent on the effectiveness of the partnership between the community college/technical institute and the business/industry.

Throughout this handbook it is apparent that workforce literacy curricula are diverse, changing, and dynamic due to the impact of the changes of the workforce needs and the information that researchers have been able to compile on the nature of the adult learner and how the adult attends, acquires, stores, retrieves and utilizes information. As this body of knowledge is expanded and refined, it seems reasonable that workforce literacy curricula will remain dynamic to reflect emerging trends.

In addition to contemplating the summarized observations about workforce literacy characteristics, there is additional information to be evaluated by the workforce specialist in a community college and/or technical institute in designing, developing, and implementing workforce literacy curriculum.

Diehl and Mikulecky (1980) conducted a study in which 107 subjects from 100 occupations and 26 workplaces were interviewed and tested at their work. They found that the workers read 113 minutes on the job which matched data reported by Sticht (1974). Diehl and Mikulecky reported **five tentative conclusions about job literacy demands:**

1. Reading on the job is a ubiquitous activity and may be the most prevalent type of reading done by employed adults. This makes job-related reading an important part of functional literacy.
2. Reading materials on the job tend to be viewed as external memories. Employees tend not to learn the material because they treat the material as information continually available to them.
3. Literacy tasks on the job are completed in an information-rich context. Because most of the tasks involve the application of information to a particular job task, the job task itself provides a number of extra-linguistic cues that may help the reader gain information quickly with a minimum of attention.
4. Because the reading materials are used in an information-rich context, the main task of the job reader is to determine the relationship between the graphic display and objects in the environment. Use of the context and the repetitious nature of job tasks probably enable many workers to read material on the job that they would not be able to read in isolation.
5. Reading at work and reading in school settings may be quite different from each other, in terms of extralinguistic cues available, cognitive demands, and uses of information gained (pp. 226-227).

Basic and/or essential skills vary from work one site to another, but work materials that are often observed are forms, computer printouts, charts, diagrams, safety and policy manuals, logs, memos, directives, brochures, machine dials, computer screens, graphs, newsletters, benefit statements, indexes, reference materials, tables of contents, blueprints, maps, work orders, measurement tools and tables. Mikulecky (1987) suggests that the basic purposes of **reading at work can be classified as follows:**

1. **Reading to do:** The highest percentage (approximately 80%) of job-related literacy involves reading information to accomplish a specific task. Once the job is completed, the information can be and often is forgotten.
2. **Reading to learn:** A minor amount of reading at work (usually less than 25%) involves reading to learn information which needs to be remembered for later use.
3. **Reading to assess:** The least demand for reading (approximately 16% of professional reading) involves examining material to assess its usefulness for some purpose, task, or person. (p.3)

Several researchers in the field have noted that there is a difference between the utilization of basic skills in the work environment and the application of basic skills in traditional school environments. Merz (1988) reports on the following **differences of the application of reading and writing processes on the job and in school environments:**

1. In school, there is an emphasis on completing blocks of subject matter, such as reading a whole text. At work, one is more likely to extract and combine pieces of information to answer a specific question or problem.
2. In school, information is presented in familiar forms in textbooks and on the blackboard. But the workplace may require a student to interpret information in many different forms such as charts, forms, computer screens, machine dials, printouts, or discussions over the telephone.
3. In school, there is an emphasis on memorizing rules, formulas, and principles. Performance tests often depend on memory. At work, it is "open book" with references, guides, and other job aides to assist the worker's memory.
4. In school, there are separate units of study on math, English, and social studies. But the problems workers encounter often involve simultaneous application of all these areas.
5. In school, talking with classmates is often forbidden. At work, speaking and listening skills are critically important in most fields. Group problem-solving is being encouraged in settings that include banks and factories.

It is important for the workforce literacy specialist to be cognizant of the differences between workforce literacy and traditional school literacy. Many community college and technical institute workforce literacy specialists will probably have observed traditional teaching of school literacy or experienced it themselves.

In designing curriculum it is critical to note that there appear to be
stages of literacy acquisition:

Non-reader

A non-reader needs to have adequate language skills (listening and speaking) before proceeding to reading, writing, application of computation to word problems, etc. Some workers may not be proficient in English listening or speaking skills, and they would probably need "English As A Second Language" instruction before they proceed to other instruction. Those workers that have proficiency in their native language will already have well developed schemas, vocabulary, and conceptual frameworks to utilize as they learn a new language. The problem is more complex for a worker who lacks experiences, schemas, prior knowledge, and vocabulary development in their native language. Curriculum can center around the individual's job tasks, and job-specific materials can be created.

Learning to Read

Workers who have adequate speaking and listening skills for their job assignment, but lack the ability to problem solve, compute, read, write, self-monitor, and other basic skills will have a need to receive initial instruction in decoding of visual symbols of the language they utilize. There should be ample structure to insure that practice results in automaticity of decoding. The amount of time needed is highly dependent on an individual's needs. This is a critical stage for individuals who have viewed themselves as failures because they have never obtained this skill at an earlier stage of their lives. Particular emphasis should be spent on empowering individuals to take charge of their lives and their learning. Guidance should be given so that they can discover the value of the skill to their job performance, career development, and personal lives. Curriculum and instruction are both structured processes. Frequent feedback of progress is critical to continued success. Job tasks and experiences can be utilized for instruction. Ample practice with text in a variety of representations is critical. Although job-specific materials should be developed and utilized, it is probably advantageous to provide other materials for application of skills. This allows individuals to gain confidence and to build schemata of different types of text. A combination of both group and individual instruction can be utilized effectively. Integration of basic skills (holistic approach to integrating reading, writing, speaking, listening, computing, problem solving, critical thinking, creative thinking, monitoring, and self-correcting strategies) can be utilized around job tasks.

Learning to Read to Learn/Do/Assess

Workers that have command of decoding skills and an understanding of how to process text may need additional "how to" guidance. These workers may need guidance from instructor/facilitator/peer tutor in "how to" utilize reference material, problem solve, evaluate, make predictions, make inferences, read and retain information when needed, approach text material, and process information in a variety of representations. In other words, the emphasis at this stage is to model learning to learn processes that can be utilized throughout their current job experiences. Although each job they will encounter in their lives will be dynamic and will require additional processes and there is questionable evidence of the transferability of these general processes to other job settings: they will have at least developed confidence; schemata for problem solving, approaching a variety of texts, processing information, and goal setting; and metacognitive skills (self awareness of their own cognitive development). Certainly job-specific curriculum and related materials are critical at this stage.

Both group and individual instruction is needed. A holistic approach centered around job tasks is needed. "Modeling" (demonstrating the "how to" processes) is needed by the instructor, facilitator, peer tutor, or instructional material.

The workforce literacy participant may need opportunities to practice the processes. In workforce literacy literature this worker is usually referred to as the "mid-literate." These workers need some external structure to assist them in goal setting and learning the processes. Their move to greater independence and empowerment over their own future learning and job performance depends largely on their success in learning effective process strategies (expanded basic skills that include team skills, negotiation skills, leadership skills, etc) and confidence.

Reading to Learn/Do/Assess

These workers are fairly sophisticated in the application and utilization of literacy skills, but refinement is needed. There may be new technology, job tasks, and/or equipment at the worksite. Generally, these workers are fairly independent, but assistance or guidance by an instructor/facilitator/peer tutor is needed for transferring, expanding, refining, and/or adapting existing skills to the job. These workers should be encouraged to acquire additional skills. These workers are likely candidates for job promotability. Career development assistance and goal setting might be very valuable at this stage. Metacognition skill development should be fostered as well as leadership, team development, and interpersonal skills. It is anticipated that every worker has a sense of how his/her job relates to the overall work organization's productivity and performance. It is anticipated that these workers might want to know more about the "systems" approach in the company. A broad array of related (job, professional, career, company) materials might want to be utilized as well as specific job materials.

Advanced Reading to Learn/Do/Assess

These workers are very goal-oriented, are problem solvers, and possess proficient literacy skills. Refinement or expansion of skills might be needed to accommodate changes on the job or in the company. These potential workforce literacy participants are independent and confident, and they utilize monitoring and self-correcting strategies. These workers' metacognition skills are well-developed, and these workers realize the potential for further development of basic skills. These workers are aware that they constantly need to be developing new information processing skills for new situations. They are highly motivated to change behavior. These workers are likely candidates for independent study that requires no or minimal supervision or guidance by a facilitator/instructor/peer tutor. These workers are likely candidates for promotability to a supervisory job. Team, management, interpersonal, problem solving, and leadership skills are possibilities. A broad array of resources should be made available to these participants.

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The stages above are described generally and are not meant to be exacting or exhaustive. It is also important to note that throughout each stage, individuals vary in communication skills, reading skills, writing skills, computation skills, self-motivation, inter-personal skills, team and negotiation skills, goal setting, learning styles, knowledge of jobs and tasks, etc. However, it is important in designing curriculum that the workforce literacy specialists and collaborative partners within the company are aware of the developmental stage of the potential participants. In the curriculum development stage, the company may want to view the global possibilities for intervention. After assessment of participant's literacy skills/needs has been completed, a chart similar to the one presented on the following two pages might be presented to company representatives to demonstrate the diversity of programs.

The stage of the potential participants, the specific job tasks, the literacy audit, and the goals of the employer will determine the specific skills that are included in the curriculum. Carnevale, Gainer, and Meltzer (1990) offer a fairly comprehensive outline of basic or essential skills that are needed in the workforce. Philippi (1988) also offers a list as well. Sticht (1987) presents yet another list. Longnion (1987) presents a list of reading skills found in Appendix A4.1. These lists and others should be used as resources; however, it is important to note that the individual conducting the literacy audit will find additional or

Developmental Stages of Reading Skills of Workers

Non Reader	Learning to Read	Learning to Read to Learn/Do/ Assess	Reading to Learn	Reading to Do	Reading to Assess	Advanced Reading to Learn/Do/ Access
development of native or non-native speaker's oral language proficiency important	development of reading fluency and automaticity a major goal	development of self-regulated learning	independent learning: emphasis on retention of content	emphasis on "how to find resources" and application	emphasis on judgement, self-monitoring metacognition and critical thinking	independency fostered
need high structure	need high structure	need moderate structure; modeling needed for "how to"	need review of organizational skills	"modeling" might be needed	"modeling" might be needed	need review of organizational skills
individual and/or small group instruction	individual and/or small group instruction	begins to utilize metacognitive skills	easiest to train; group or individual instruction	group or individual instruction	group or individual instruction	group or individual instruction
external and internal motivation is critical	some modeling of processes and metacognition helpful	self-monitors	geared for success; good self-esteem	critical thinking skills	problem solving strategies	high level metacognitive skills

Curriculum and Instruction: Overview

Developmental Stages of Reading Skills of Workers

Non Reader	Learning to Read	Learning to Read to Learn/Do/ Assess	Reading to Learn	Reading to Do	Reading to Assess	Advanced Reading to Learn/Do/ Assess
	self-monitors			goal setting and problem solving strategies		confident self-starter self-motivated goal-oriented

similar literacy skills in their specific audit. Drew, Mikulecky, and Pershing (1988) suggest that most workforce literacy curriculum will probably include the following skill clusters:

- locating information,
- writing summaries,
- troubleshooting:
 - formulating questions,
 - devising alternate solutions,
 - making and checking predictions,
- using multiple sources of information,
- problem solving,
- technical vocabulary

Drew, Mikulecky, and Pershing also note that most literacy audits are conducted on job tasks that are identified by the company as critical tasks, jobs that are available to workers for promotion, jobs that require retraining, and job tasks where there are frequent mistakes.

Throughout the design component of the curriculum development process, the workforce literacy specialist should work with company representatives to determine the parameters and focus of the curriculum. Stack (1989) suggests that occupational literacy programs must be customized in two ways: to the needs of the organization and to the needs of the employees or participants. Sticht and Mikulecky (1984) present a very good argument for placing the needs of the organization first. Traditionally the needs of the individual have been placed first, but training/instructing in a particular workplace setting changes that focus. The approach, then, is to determine how an effective basic skills program can be developed that will help the business achieve its goals in a cost-beneficial manner.

CURRICULUM DESIGN AND DEVELOPMENT FOR WORKFORCE LITERACY

Many factors will influence the design and organization of the curriculum:

- the goals of the company
- nature of the functional context:
 - difficulty and complexity of the job tasks knowledge and skills,
 - complexity of the basic skill processes required
- nature of the worker:
 - job task readiness for the learning experience,
 - basic skill readiness for the learning experience,
 - motivation to learn,
 - "stage" match to the potential program,
 - career and personal goals

- resources available:
 - partnership commitment,
 - materials,
 - equipment,
 - personnel,
 - facilities,
 - budget,
 - "time" for classes

Before the partnership designs and develops the curriculum, it is assumed that the needs assessment has been conducted for the curriculum, and it is assumed that job tasks analyses and literacy audits have been a part of the process. Most researchers and practitioners in the emerging field of workforce literacy recommend that the curriculum should be designed around the basic skills found in the literacy audit. Specific competencies should be developed. The competencies should then be reviewed to determine the manageable "chunks."

It is important to note that if considerable time and effort were spent in the needs assessment component and multiple job tasks analyses and literacy audits were conducted for several jobs and/or job families, then it is possible that there will be enough competencies to outline a comprehensive program that includes "remediation" courses, enhancement courses, integrated technical and basic skills courses, etc. If the expressed need and goals are comprehensive, then it is possible that a fairly extensive long term program would be designed. Such a program might outline a timeline of a year or two or multiple courses and/or programs to meet comprehensive needs of the company. It is possible to develop entire courses on most of the basic skills discussed in this handbook. Ideally, the ultimate goal for the partnership will be to meet comprehensive needs of the company. Realistically, however, most companies may desire to move to a comprehensive approach for all the company and workers' needs, but they do not have the resources to implement everything at once. In other instances, the company is not developmentally ready for the change. Workforce literacy programs will expand as the companies are forced to change, restructure, reorganize, and provide retraining and upgrading skill opportunities to their workers. Their very survival may depend on improving the basic skills of their workers.

If the partnership is not expected to address comprehensive needs of the company, then priority will be given to the area chosen by the company. Initially, most partnerships will address the competencies identified in one, two, or three courses.

Philippi (1988) suggests that the individual designing and developing the curriculum should prioritize the curriculum according to the job tasks that are most critical to the worker's job performance. She recommends that "if tasks are complex, they need to be broken down into steps, substeps, and single behaviors" (p. 661). The literacy audit results (the identification of the required cognitive literacy processes and concepts that workers need to know or learn for

efficient job performance) should be matched with each job task. Learning objectives (competencies) should then be written for each job literacy task. Philippi suggests that to insure that the goal of each competency is job literacy, she suggests that classifying each reading process as "a strategy for locating information or a strategy for using information from reading to make job decisions, problem solve, or trouble shoot." (p. 662) She recommends using the labels **"Reading to Do"** and **"Reading to Learn."** She distinguishes the categories:

"Reading to Do" tasks primarily involve finding information for immediate use in printed materials that are readily available for reference. These processes require only the use of short-term memory and limited information processing. **"Reading to Learn"** tasks focus on more complex cognitive processing and require input and retrieval of job knowledge from long-term memory. (p.662)

It might also be important to add **"Reading to Assess"** which Mikulecky identifies as another reading behavior on the job. When curriculum is implemented (instruction), the instructor/facilitator could observe which workers are at the beginning **"Learning to Read to Learn/Do/Assess"** stage. These individuals may need additional modeling of the processes, and they may need more practice.

There will be a decision by the partnership to determine the number of courses that will be developed. Again there may be multiple offerings. It is suggested for recruitment purposes and for potential stigma problems that the course/courses/program/programs be named without "literacy" in the title. Many creative and appropriate names have been provided for programs in workforce literacy programs: Job Enhancement Skills, Essential Skills for the Workplace, Power Learning, etc.

Entire courses could center around some cluster of identified basic skills such as Team Building Strategies, Negotiation Skills, Leadership and Personal Management Skills, Technical Writing, Communication Skills, etc. Many of the expanded basic skills can also be applied in the instructional setting through an integration of the skills.

The Assessment and Evaluation section of this handbook addresses evaluation. It is important that the partnership decide on the variables that will be the indicators of the success of the program. In addition to evaluation aspects presented by The Bottom Line, attention might be given to evaluating curriculum components, individual lessons, instructor performance, efficacy of the partnership, etc. There should be agreement in the early stage on the nature of the data to be collected, who will collect it, and how it will be analyzed and reported. If recordkeeping is to be kept on participants, will it be done manually or on computers? What will be kept? (Pre and Post test scores? Competency completion?) Will participants keep a copy of their performance record?

As revealed throughout this handbook multiple factors will dictate the shape of the final curriculum. At some point in the curriculum design and development process more detailed planning will need to occur. From the designed and prioritized competencies, there will be a

need to produce outlines for the program and/or course/courses, to develop lesson plans, to identify instructional resources and materials, and to design instructional activities and strategies.

When developing lessons, identifying instructional resources, and designing instructional strategies, Philippi (1988), Drew, Mikulecky, and Pershing (1988) recommend that the lessons be centered around the literacy competencies that are critical to job performance. In addition, they suggest using job-related materials and the job task environment to develop the lessons. They recommend the use of job-related materials and the utilization of job simulation tasks to model and practice the literacy processes. Depending on the literacy "stage" of the learner, commercial materials may be utilized to practice specific skills (particularly practice "reading to do" tasks for reference materials, filling out forms, computation exercises, writing exercises). In a class that has a diverse level of participants and occupations, Philippi even suggests that the participants be exposed to each other's job materials, so they can compare and contrast their literacy processes as well as understand the connectedness of jobs and literacy processes.

Before implementation of the curriculum (instruction) begins, other considerations will need to be addressed:

■ delivery of instruction:

- individual and/or group instruction,
- size of class/classes,
- instructor/facilitator (directed or self directed)
- length of course or programs
- utilization of instructional technology
- identification of instructional resources
- development or acquisition of job-related materials
- time of class

■ facilities:

- traditional classroom setting and/or learning lab, on-site versus off-site
- scheduling
- utilization of instructional technology
- instructional resources

■ personnel:

- instructor/facilitator
- supervisors
- evaluators
- support services (counseling and advising)

■ staff development:

- content decisions
- development of program

Some of these considerations will be discussed in greater depth in a later section. It is important that comprehensive planning regarding these considerations be conducted by the partnership so that the implementation stage of the curriculum can be conducted as efficiently as possible.

PARTNERSHIP ROLES IN THE CURRICULUM DEVELOPMENT PROCESS

Every partnership will differ in the degree of decision-making and division of labor that occurs throughout the design and development phases of the curriculum. Ideally, it would be effective to have the company directly involved in all aspects of the curriculum design and development phase. Supervisors, workers, and management will certainly have been involved in the needs assessment (job task analysis, literacy audit, and assessment of workers' literacy skills); and they will be involved in every stage of decision-making for the design and development of the curriculum. Some companies might choose to have their personnel work with the workforce literacy specialist from the community college and/or technical institute to design and develop the curriculum. A company representative could be the "technician" and the workforce literacy specialist could be the "process" person. If the company representatives do not directly design and develop curriculum, it would be reasonable to expect that they review and validate competencies, job-simulation activities, and job materials for authenticity. The company will have a major role in the focus and goals of the program, the budget, the facilities, the schedule, personnel, recruitment of participants, etc. In addition to personnel costs and potential release time of workers, another major cost for the company might be the utilization of multi-media equipment (tutored video classroom, interactive TV classroom, and computer-based training, interactive videodisc with personal computer). Criteria for the selection and utilization of instructional technology can be attained from Bialo and Sivin (1987). Figure 4.2 on the following page is an example of a chart that could be discussed by the partnership to review advantages and disadvantages of an approach.

INSTRUCTION

Instruction is the delivery and implementation of the curriculum. There is always some ambiguity to the delineation between the end of the curriculum process and the beginning of the instructional process, but the instructional process is primarily focused on implementing the curriculum.

SPECIAL CONSIDERATIONS FOR DELIVERING INSTRUCTION

Length of Course

In workforce literacy programs, there appears to be great diversity in the length of programs and courses and the frequency of classes or instructional contacts made per week. A rule of thumb often used in traditional adult education classes has been the scheduling of 75 - 100 hours of instruction for every year gained in achievement. There are two problems with using

Delivery System Options

<u>System</u>	<u>Advantages</u>	<u>Disadvantages</u>
Computers	Self-paced Privacy User control Future technology for job performance	Initial cost of equipment Space for equipment Not effective for every learner
Instructor Led	Highly interpersonal	No exposure to new technology Heavy time investment for development of instructional materials Success of program rests solely on ability of instructor to motivate participants
Integration of Technology and Instructor Led	Balanced approach Less equipment needed Participants have more than one motivational source	Moderate time investment for development of instructional materials

Figure 4.2

this estimate. First, more than likely evaluation will measure and report completion of competencies rather than grade level achievement on a standardized test. Second, there is evidence to support that job-specific instruction is more efficient, and the nature of many of the materials and processes are repetitive enabling the worker to learn more efficiently. In planning the initial course/courses, there may need to be revisions after the first course is implemented. Each individual worker will have varying needs of direct instructional needs as well as application needs.

Frequency of Classes/Contacts

There is great diversity among workforce literacy programs in frequency of classes held per week. Dunn-Rankin and Beil (1990) report that most in-house programs meet two to three times a week for two to three hours. Most traditional Adult Basic Education classes meet for four to six hours per week.

Staff Development

Staff development training for the instructor/facilitator and other personnel is critical. Since workforce literacy is an emerging field and many aspects of the field are new to even experienced adult educators, it is important to review both the theoretical framework and practical considerations of the curriculum and instructional strategies. "Modeling" of the cognitive processes needed for a specific job may need to be presented to the instructors as well. New instructors may need monitoring of their performance in the classroom for feedback on their delivery and utilization of the instructional strategies required of the curriculum. If the instructor has no experience in teaching adults or background in adult learning theory, many of Malcolm Knowles adult education theoretical applications regarding andragogy should be reviewed or presented.

Selection of Instructors

The Management section of this handbook provides some criteria for selecting instructors. It is important that they be flexible and highly motivated to learn a "new way" of teaching. They will need to be able to tolerate diversity and ambiguity as they center their lessons around the needs of the participants rather than what they feel needs to be taught. Each class will probably be a learning experience for the instructor as well as the participants. If the instructor/facilitator does not possess the technical knowledge of the job, it will be a learning experience for the instructor. Just as team approaches are sometimes used for the curriculum design and development stages, team teaching within the partnership (a technical expert and a process expert) is also appropriate.

In selecting instructors it is critical that their expertise, experience, interest, and teaching style be matched to the literacy acquisition stage of the participant. In some partnerships, there may be an opportunity to utilize another literacy provider for special needs. Volunteers

from Literacy Volunteers of America, TEA Adult Education Cooperatives, or other local community-based program might be utilized to assist or address the need for individualized or small group instruction for nonreaders or English As A Second Language participants. A guide for teaching beginning reading skills (Longnion, 1987) is provided in the appendix.

INSTRUCTIONAL STRATEGIES USED IN THE WORKPLACE

In the instructional event, there are four categories of critical variables that impact learning: instructor variables, learner variables, content variables, and method variables. Most educators and researchers agree that instructor variables have the greatest impact. Often excellent and gifted instructors can motivate, inspire, provide information, and enable students to make significant gains in their educational performance with minimal resources. Even if computer-assisted instruction or sophisticated technology is used that is designed to be self paced and used by individuals, there is still a critical need for an instructor to establish an effective instructional environment, provide feedback and guidance, suggest application of skills, etc.

Motivation

The instructor is responsible for two critical components of learning — the “will and skill.” Weinstein (1991) suggests that it is not enough to teach the “skills” to the learner. The instructor needs to instill “will” through motivational strategies and successful learning experiences for the learner. In order that the worker become a self-regulated learner for life, she/he needs to be motivated to learn. The individual learns to value learning when he/she can see the connectedness to his/her own life and career goals. Through successful learning experiences and the development of confidence and positive self esteem, the worker can empower himself/herself to take charge of his/her future learning. A helpful strategy might be the creation of a contract between the instructor and the learner that outlines the competencies to be learned (identified through assessment strategies) and establishes a timeline for achieving the competencies. The contract can be revisited periodically for revision. It can also become a tracking or recordkeeping device as competencies are completed. This strategy is particularly helpful in assisting the learner process a decision about goals. This strategy might be expanded to include short and long term goals in a career or personal development plan.

Instructional Design

The content and nature of the learner will dictate the instructional strategies and the sequence of instructional events. Most workforce literacy researchers and educators suggest that each lesson should generally provide:

- Direct teaching, demonstration, or "modeling" of literacy process
- Demonstration of the application of literacy processes to job simulations
- Opportunities to practice skills or processes on several examples of job material/materials
- Opportunities to apply and transfer skill to a new job simulation

To insure that the learner/learners succeed in learning the literacy processes, Philippi (1988) suggests they use the existing schemata (mental hooks) derived from their work environment and experiences to attach new information (familiar skills, knowledges, and processes). Her suggestions support Sticht's (1987) recommendations presented in the Introduction section of this handbook: develop new knowledge on the foundation of previous knowledge and develop new lessons on the basis of previous lessons so that the newly acquired learning builds on prior knowledge.

The instructor may need to create the events of learning through designing readiness activities, providing guidance and feedback as the lesson progresses, and provide a bridge to other learning events by designing follow-up activities within the structured class or as outside assignments. Although it has been noted that a large part of the workplace requires "reading to do" activities, there are some occupations that will need special emphasis on "reading to learn." For these program participants, it is suggested that the instructor design activities that enable students to "attend to, acquire, store, and retrieve" information.

It is valuable when the opportunity presents itself to have opportunities for both group and individual instructional opportunities. Most humans are social creatures and they benefit from the "team" processes and interactions that emerge from group activities. There are opportunities to personalize the practice and application stage of the lesson.

In teaching most basic skills, particularly reading, the instructor should note some important factors influencing learners' comprehension skills:

- prior knowledge
- experiential base
- thinking skills
- value for reading
- decoding skills
- language proficiency
- knowledge of text structures
- knowledge of task environment
- ability to self-question
- ability to monitor and self-correct
- education experiences (positive and negative)

- ability to use imagery
- text difficulty
- physical and emotional well-being

Comprehension research investigations of what **good reading comprehenders** do reveal that they **generally engage in three processes as they read their text**:

- ask questions concerning the content of the text prior to reading it
- monitor their understanding of text as they read
- self-correct when they do not understand what they read

Although good readers use these processes automatically, poor readers may not be aware that these strategies facilitate their comprehension and retention of information in the text. In these cases, the instructor needs to teach the learner "how to" utilize these processes.

There are effective strategies that can be utilized to assist learners in becoming efficient information processors whether they process through listening or reading (receptive communication skills). Questioning strategies can be directly "modeled" by instructors and peers. The instructor can ask questions about the text to be read and/or the job task to be conducted to demonstrate how learners attend to a task and remain actively engaged in the cognitive processes. After the instructor models good questioning strategies, peers can be paired to practice and provide modeling and feedback to each other. Questions can be answered to determine if questions were reflective of accurate hypothesis formation and predictive strategies about text or the task environment. Philippi (1988) suggests that the initial self-question for learners to ask is: "What is it that I must do to get the necessary information as I read these job materials?" (p. 661)

The instructor can also model the literacy processes of a given job simulation and "talk aloud" about the cognitive processes that he/she is using to perform the job tasks. The instructor might choose to introduce the learners to error analysis. Most proficient readers reread words, phrases, or sentences when they do not make sense. By modeling this process, the learners begin to understand that the cognitive processes of literacy skills are problem solving processes. Give them options for comprehension monitoring such as Collins and Smith's (1980, pp. 9-11) compensatory strategies:

- Ignore and read on
- Suspend judgement
- Form a tentative hypothesis

- Reread the current sentence(s)
- Reread the previous context
- Go to an expert source

McNeil (1987) suggests that the learner who has acquired self-questioning strategies, compensatory strategies, and self-instruction strategies might approach finding a topic sentence in a "reading to learn" task by asking and answering questions:

- "What is it I have to do?" (problem definition)
- "I have to find the topic sentence of the paragraph." (focusing attention)
- "The topic sentence is what the paragraph is about. I start by looking for a sentence that sums up the details or tells what the paragraph is about." (plan of action)
- "I haven't found it." (evaluation)
- "That's all right." (self-encouragement)
- "The topic sentence might be a definition or a combination of a question and answer." (revision)
- "I'll try my new plan." (coping) (p.96)

To assist the participants in becoming self-regulated and motivated learners, the instructor can help them learn metacognition skills. The instructor should clarify that all learners have at their command many kinds of knowledge to assist them in learning and problem solving. Weinstein (1991) presents classifications of levels from self to more global perspectives:

- Knowledge about self
- Knowledge about the task
- Knowledge about the content
- Knowledge about the strategies
- Knowledge about the context

Literacy process skills such as computation, reading, writing, listening, oral communication, problem solving, creative and critical thinking skills can be effectively taught in groups.

Many times other important basic skills can be taught through the group process: interpersonal, negotiation, leadership, teamwork, and goal setting skills. When possible, instructional practice can be organized by pairing individuals. One "teaches" and the "learner" provides feedback. Then they reverse roles.

For learners who have trouble organizing their thoughts or visualizing the problem or the solution, it might be helpful to use visuals such as outlines, diagrams, or structured overviews. Some learners need the additional assistance in conceptualizing processes and/or ideas. In reviewing or teaching technical vocabulary to the learners, the teacher should present them in thematic units to enhance the conceptual understanding of the words as well as the retention of the words.

Many generic and some specific strategies have been presented in this section of the handbook. Not all of them are appropriate for all learners. There should be an attempt to match need with the strategies. Emphasis should be placed throughout the instructional process on enabling the learner to become a self-regulated learner. Through continuous observation and assessment, there will be times that the instructor will assign practice on subskills as they are needed. This is an appropriate strategy; however, caution should be made to avoid teaching subskills in isolation. The instructor should emphasize and teach the integration of skills — this holistic strategy is more like what the learner experiences on her/his job site.

EXTENDED ROLE OF A WORKFORCE LITERACY SPECIALIST

Certainly beyond the scope of instruction, but possibly not beyond partnership discussions, the instructors and/or workforce literacy specialist could provide feedback on the readability and ease of the job materials to the partnership. Although readability formulas can be applied to job-related materials. They are often not very useful in determining readability. Much of the "reading to do" reading tasks are not text abundant. The instructor needs to make sure that the learner understands the conceptual framework represented by the often abbreviated labels. Manuals are often written at a very difficult readability (9 - 13th grade) level and are generally not written in a "reader friendly" format. When possible, the company might appreciate or benefit from the feedback and suggestions for improvement.

Through a successful venture within a partnership, the workforce literacy specialist might have the opportunity to open the door to other workforce development training opportunities for the community colleges and/or technical institute. This partnership could lead to future technical training and retraining programs.

Although the focus of the literacy instruction is meant to enhance the productivity of the company, it is possible that some of the program participants will not only become efficient information processors and problem solvers in their job setting; but that they will become active in utilizing literacy skills in their personal lives as well. When appropriate, information on continued educational opportunities could be made available to the company and/or workers. Hopefully, the participants will "value" the literacy experience and choose to utilize the processes to empower them in every aspect of their lives.

GENERAL READING SKILLS

- I. To expand a sight vocabulary necessary to read and understand text by recognizing words within the context of familiar content or in isolation.
- II. To apply word recognition strategies to decode unknown words such as:
 - A. Utilizing context clues to decode unknown words
 - 1. Picture and illustration clues
 - 2. Clues such as:
 - a. Definition
 - b. Appositive
 - c. Comparison/Contrast Clues
 - d. Experience clues
 - e. Example clues
 - B. Applying knowledge of structural analysis to decode unknown words such as:
 - 1. Compound words
 - 2. Contractions
 - 3. Inflectional endings
 - 4. Syllabication and accent
 - C. Applying knowledge of phonics to decode unknown words such as :
 - 1. Consonants
 - 2. Consonant blends (consonant plus l, consonant plus r, s, plus consonant)
 - 3. Consonant digraphs (th, ng, sh, ph, gh, ch)
 - 4. Long vowels-a (ate), e (be), i (rice), o (so), u (fuse)
 - 5. Short vowels-a (at), e (bet), i (it), o (rot), u (up)
 - 6. Vowel digraphs-au (caught), aw (law), oo (foot)
 - 7. Vowel diphthongs-oi (oil), oy (boy), ou (round), ow (fowl)
 - 8. R controlled words-bar, tar, far
 - 9. L controlled words-all
 - 10. Spelling pattern-cane, sane, Jane, lane; jam, ram, Sam; deed, seed, feed; rat, rap, rack
 - D. Applying information in dictionary to decode unknown words such as:
 - 1. Pronunciation key
 - 2. Syllabication and accent marks

- III. To recognize that there are different types of comprehension
- IV. Demonstrate an understanding of the function of all units of text material by:
 - A. Recognizing the function of a word in text material such as:
 - 1. Context clues
 - 2. Structural analysis (prefixes, root words, and suffixes)
 - 3. Analogies
 - 4. Homographs (identical spelling, different meanings)
 - 5. Antonyms (words that are opposite in meaning)
 - 6. Synonyms (words that mean the same)
 - 7. Specialized vocabulary
 - 8. Dictionary
 - B. Recognizing the function of sentences and to use comprehension of the sentence to comprehend whole text
 - C. Recognizing the function of a paragraph and to use the comprehension of a paragraph to comprehend whole text such as:
 - 1. Introductory
 - 2. Transitional
 - 3. Illustrative/Example
 - 4. Summary
 - D. Recognizing the function of isolated words, sentences, paragraphs, text organization and structure, and use this knowledge to comprehend whole text such as:
 - 1. Expository text organized such as:
 - a. Sequence or chronological order
 - b. Simple listing
 - c. Comparison and contrast
 - d. Cause and effect
 - 2. Narrative text
- V. To utilize information that has been explicitly stated within a text to facilitate comprehension of text (literal) by:
 - A. Recognizing main ideas of explicitly stated text

- B. Recognizing details of a given passage
 - C. Recognizing the sequence of a selection
 - D. Recognizing comparison/contrast relationship of ideas
 - E. Recognizing cause-and-effect relationship of ideas
- VI. To apply knowledge base of the world to the interpretation of passages that have an implied message (inferential) by:
- A. Inferring main ideas in a given text
 - B. Inferring details in a given text
 - C. Inferring sequence of a given text
 - D. Inferring cause-and-effect relationship of ideas in a given text
 - E. Inferring comparison and contract relationships of ideas in a given text
 - F. Inferring classifications of concepts or ideas in a given text
 - G. Inferring events in a given text
 - H. Drawing conclusions in a given text
 - I. Predicting outcomes in a given text
 - J. Interpreting characters
- VII. To apply a knowledge base of the world and one's own personal experiences to evaluate text (critical) by:
- A. Evaluating author's purpose in a given article
 - B. Evaluating author's style in a given article
 - C. Evaluating author's tone in a given article
 - D. Evaluating author's point of view presented in an article
 - E. Evaluating fact and opinion statements in a selection
 - F. Recognizing propaganda devices in a selection
- VIII. To apply a variety of thinking skills to the reading process by:
- A. Developing several thinking processes: association, comparison, contrast, convergent/divergent, synthesis/analysis, inductive/deductive, classifying, critical, and creative
 - B. Applying thinking processes to the reading process
- IX. To apply the concept that rate of reading and thoroughness of reading depends on the purpose of the reading task by:
- A. Applying skimming strategies to text material when appropriate
 - B. Applying scanning strategies to text material when appropriate
 - C. Applying study-type strategy when appropriate

X. To apply strategies for using resources to comprehend text by:

A. Utilizing parts of books to locate information such as:

1. Title
2. Copyright page
3. Preface
4. Table of contents
5. Introduction
6. Appendices
7. Glossaries
8. Footnotes
9. Bibliography

B. Utilizing reference materials to locate information such as:

1. Almanacs
2. Atlases
3. Encyclopedias
4. Government publications
5. Newspapers
6. Periodicals
7. Posters
8. Telephone directories
9. Thesaurus

C. Utilizing the library to locate information such as:

1. Card catalog
2. Organization

XI. To utilize graphic aids to facilitate the comprehension process by:

- A. Comprehending maps
- B. Comprehending graphs
- C. Comprehending timelines
- D. Comprehending charts
- E. Comprehending globes
- F. Comprehending tables
- G. Comprehending diagrams

- XII. To apply organizational skills to facilitate the acquisition, storage, and retrieval of knowledge by:
- A. Applying strategies to approach and process text
 - B. Utilizing notetaking skills to acquire and remember information
 - C. Utilizing outlining skills to acquire and remember information
 - D. Learning to effectively summarize
 - E. Developing constructive study habits
- XIII. To recognize important variables affecting the comprehension of text by:
- A. Analyzing how vocabulary knowledge impacts reading comprehension
 - B. Recognizing that knowledge of language and how it works is critical to comprehension
 - C. Recognizing that knowledge of sound/symbol relationships and ability to decode is critical to comprehension
 - D. Recognizing that interest in text affects comprehension of text
 - E. Recognizing that knowledge of structure of text is important to reading comprehension
 - F. Recognizing that knowledge of author's organization patterns is important to reading comprehension
 - G. Recognizing that prior knowledge and experience affect reading comprehension
- XIV. Developing a strategy for approaching and processing text such as:
- A. Utilizing pre-reading activities
 - B. Setting purposes
 - C. Expecting text to make sense
 - D. Self-monitoring
 - E. Implementing self-correction strategies
 - F. Utilizing post-reading activities
- XV. To recognize reading as a process and skill that affects one's life and to use information, ideas, and/or events from text and apply them to one's own life experiences and/or problems by:
- A. Processing print as a problem-solving strategy (analyze personal problems and find a solution or alternative solutions)
 - B. Processing print for the expansion of knowledge (assimilate and accommodate new information from text)
 - C. Processing print for recreation and enjoyment

Source: Longnion, B. (1987) Teaching literacy: Handbook for program coordinators, teachers, volunteers, and trainers. Texas Education Agency, Division of Adult Programs, Austin, Texas
Special project conducted at North Harris County College by TEA grant funds, 1987.

WHAT ARE SOME TECHNIQUES USED IN TEACHING THE BEGINNING ADULT READER?

There are four main strategies that are used in teaching beginning reading. One is the language experience approach. The steps are listed below:

1. Engage student in conversation about an event, his daily schedule, etc.
2. Record (write down) the learners main points. Initially, keep the stories brief (4 or 5 lines).
3. If time permits, type the story. If not, record the story on the chalkboard or in a notebook.

An example might be as follows:

My name is Jose Martinez.
I am a factory worker.
I work at Johnson, Inc.
I live in Dallas, Texas.

4. Reread the story to the student.
5. Then let the adult read to you.
6. Let this story lead into other activities—application of word attack skills to unknown words such as: phonics, structural analysis, context clues, etc.
7. Cut story into sentence strips, then ask student to rearrange sentences to recreate story for additional comprehension practice.
8. Start a sight word list, a vocabulary list, and a spelling list.
9. Use words to write a new story. Create crossword puzzles, bingo games, etc. to reinforce the new words.
10. Keep a notebook of stories. Date them so student can see progress. If students are comfortable with the idea, begin using their stories for material in the classroom.

Echoing is another technique. The teacher models reading for the student. The teacher reads a sentence or other meaningful segments of prose, the student repeats or “echoes” the teacher’s reading, the teacher reads the next section, the student repeats, etc.

Neurological impress is another technique. The Neurological Impress Method (NIM) is a procedure which calls for a multi-sensory approach to reading. It can be employed in a one-to-one relationship or a group.

The individual method consists of the instructor and the students meeting to orally read a selection together. Initially, the instructor may want to read in a louder voice and slightly faster pace than the learner. In the first few reading sessions, the paragraphs or sentences are repeated several times until a normal, fluid reading pattern is established.

During the reading the instructor moves his or her finger simultaneously under the spoken words at precisely the same speed and with the same flow as the verbal reading. (Heckelman, 1974). As the learner becomes more proficient, he or she can point to the words. This technique is a valuable technique for bridging the gap between spoken language and reading text.

A fourth and, unfortunately, often used strategy is to begin reading instruction by teaching only phonics.

Teachers who emphasize only phonics or other word recognition strategies without addressing comprehension may find they teach adults to be "word barkers" and not readers. Many students who receive a heavy emphasis of instruction in pronunciation but very little emphasis on reading and understanding sentences and paragraphs are likely to become "word barkers."

We believe it is more effective to teach phonics, generalization and other word recognition strategies: through the use of words which learners already recognize in meaningful contexts. These words could come from learners' language experience stories. See suggestion 5 under language experience in this section.

WHAT IS AN EXAMPLE OF A TEACHING STRATEGY USED TO TEACH THE ADULT LEARNER?

The following outline addresses a strategy for teaching an individual to learn to read. It can be adapted to use with 5 -10 students at a time. It is important to note the sessions are not meant to denote a structured time sequence. The first session may take 15 minutes for some students and 2 hours for others. One session might conceivably last several days or a month.

First Session

- I. Conduct informal assessment
 - A. Conduct interview
 - B. Use word list
 - C. Have students read selections to confirm you guess
- II. Teach learner to read
 - A. Use language experience approach
An example would be as follows:

My name is Jane Rhodes.
I have three children.
Their names are Gwen, Robin, and Phillip.
My husband's name is Robert.
 - B. Use neurological impress method

- C. Use echoing technique
- D. Discuss selection
- E. Add to initial story if time permits
- F. Date story
- G. Introduce a few letters of the alphabet
- H. Encourage the learner to take the selection home to practice

Second Session

I. Review reading material

- A. Check for retention of story and alphabet learned (make notes of what has been retained)
- B. Practice story if learner had difficulty reading it the first time
- C. Make flash cards or a list of words from the story
An example would be as follows:

My
Gwen
Robert
names
their
husband's
is
three
children
I
have
are
Robin
Rhodes

- D. Let student attempt to pronounce words in isolation
- E. Teach a few letters from the alphabet
- F. Note any words student has problems decoding
- G. Review words missed
- H. If student is not weary, continue word practice in isolation
- I. Reread the story

II. Introduce new text

- A. Add to present selection or begin new one
Example of another story by same student:

I enjoy taking walks with my family in
the evenings. I like visiting friends.

I especially want to learn to read because
my children can read. I do not want them
to know I can't read.

- B. Use neurological impress and echoing techniques
- C. Discuss new selection
- D. Date story

III. Practice new words

- A. Make word list from additional selection
- B. Encourage students to practice selections and word list at home
- C. If they can write, let them practice writing the story
- D. Examine information you have collected
- E. Write brief notes of observations made of student's performance

Third Session

I. Review reading materials

- A. Have student read two stories from previous session (note errors made)
- B. Have learner read all previous words (be sure to change order)—observe performance and note errors made
- C. Begin to take notice of student's progress in learning words in isolation and in context
- D. If learner is missing words in story, encourage him/her to use context by asking, "what would make sense?"

II. Introduce new text

- A. Add to present story or write another selection

I like to watch television. My favorite show
is Dallas. I guess I like it because it is like
a soap opera. I don't have much time any more to
watch Phil Donahue and As the World Turns.

- B. Practice reading it as before

III. Review new words in isolation

- A. Note new words
- B. Add to word list

IV. Assess program

- A. Notice how well learner retains new words
- B. Notice if learner possesses any decoding skills (which ones)

- C. Notice if learner pays attention to all word parts
- V. Begin skill practice when student has good command of 50 -75 words in isolation
- A. Practice comprehension skills
1. If time permits, rearrange words into new sentences for example:

Robin enjoys friends.
 Robin enjoys television.
 Gwen enjoys television in the evenings.
 My husband likes Dallas.
 2. Begin to scramble words and let learner compose sentences

during don't I read the day
 I don't read during the day.
 want to I read Robert to
 I want to read to Robert.
 3. Discuss selection
- B. Practice word recognition skills
1. Use phonics approach
 - a. Synthetic phonics—students use their knowledge of sound/symbol relationships to synthesize the sounds or piece the sound together to form a word

N - O - T ≠ NOT
 A - S = AS
 B - U - T = BUT
 - b. Analytic phonics—student analyze a given set of words and learn sound/symbol relationships by making generalizations about similarities observed in several words.

Example: Read these four words and determine what sound they have in common

SHOW
 SHOE
 SHOP
 SHERRI

Generalization: The letters sh represent the sound /sh/

Example: Same directions

MUCH
WATCH
CHILDREN

Generalization: The letters ch represent the sound /ch/

Example: Same directions

GWEN
CHILDREN
ROBIN
JANE
CLAY

Generalization: Some sounds are spelled in more than one way.
Both A - E and ay represent the sound /a/

- c. Linguistic phonics—the student is asked to read through words with similar patterns. Emphasis is placed on the student discriminating initial and final consonant sounds or vowel patterns when beginnings and endings are different

Example:

name
came
same
fame
shame
frame
lame
tame

Example:

not
tot
rot
lot
cot

shot

trot

2. Use structural analysis
 3. Use context clues
- C. Introduce new vocabulary words
1. Use sentences from stories and substitute synonyms
 2. Use context clues to figure out meanings of new words

Fourth Session

- I. Review previous materials
 - A. Reread stories
 - B. Review isolated words that learner has had difficulty pronouncing
- II. Teach more reading skills
 - A. Continue writing language experience stories or read other adults' selections
 - B. Continue use of word list
 - C. Continue practicing word recognition skills that are needed
 - D. Teach more letters
 - E. Continue comprehension and vocabulary lessons
 - F. Use Dolch Sight Word List to introduce new sight words (introduce within context)
- III. Assess student's progress
 - A. Notice retention of words read in isolation as opposed to context
 - B. Notice progress in word recognition skills
 - C. Notice amount of practice needed for skills
- IV. Provide feedback to student
 - A. Conduct interview
 - B. Initiate records, charts, graphs, lists to illustrate progress if not already started

Fifth Session

- I. Continue to use individual language experience stories, group language experience stories, exchange of personal stories, and recorded conversations until you feel the adult learner is ready to transfer to written text (both narrative and nonfiction)
- II. Could make the transition easier by reading and tape recording the initial selections
- III. Check to see that the following occurs for each story

- A. Student is motivated
 - 1. Teacher role
 - 2. Self
 - B. Student is given or seeks background information for story
 - 1. SQ3R (Study, Question, Read, Recite, and Review)
 - 2. Review vocabulary and concepts
 - 3. Discussion
 - C. Read selection
 - 1. Read silently
 - 2. Read orally only if it is volunteered or for student to clarify a point
 - D. Check to see if student understood what was read
 - 1. Discussion
 - 2. Questioning
 - a. Literal
 - b. Inferential
 - c. Critical
 - E. Follow up reading with other readings or an activity
- IV. Continue to explore what is needed in word recognition skills, comprehension, concept and vocabulary development, background information, and motivational strategies—teach to their needs
- V. Continue to offer materials related to interests and job needs—concentrate on “MEANING”

Source: Longnion, B. (1987). Teaching literacy: Handbook for program coordinators, teachers, volunteers, and trainers. Texas Education Agency, Division of Adult Programs, Austin, Texas. Special project conducted at North Harris County College by TEA grant funds, 1987.

CURRICULUM AND INSTRUCTION: REVIEW OF THE LITERATURE

Successful [job-related/functional context] curriculum developers qualify as master jugglers (Philippi, 1991, p. 136).

Historically, "literacy" has been defined as the ability to read and write. When educational institutions were asked to provide training programs for business and industry, they most often provided existing Adult Basic Education (ABE), General Educational Development (GED), or English As A Second Language (ESL) courses. These traditional academic methods, however, have failed to give adult learners the reading, computation, and problem-solving skills they need on the job (Mikulecky & Drew, 1988).

Today "new technology, participative management, sophisticated statistical quality controls, customer service, just-in-time production" (Carnevale, Gainer, Meltzer, 1990, p. 1) have changed the workplace and the literacy skills employees need in order to perform their jobs. As a result, the past several decades have produced a good deal of research, opinion, and model programs addressing the need for customized essential skills training programs for "the millions of adults who can read and write but not well enough to meet the literacy demands for entering and succeeding in a technologically advanced workplace" (Mikulecky & Drew, 1988).

In addressing the need to move from the traditional concept that improved basic skills can result in more literate, productive employees, Sue Berryman, Director of the Institute on Education and the Economy, Teachers College, Columbia University, warns that "countless studies show that individuals—children and adults, at-risk and not-at-risk—do things that have utility for them, that connect to what they want and where they expect to be going" (p. 33).

This argument that basic skills must have relevance for the individual in order to be meaningful is central to the design, development, and implementation of successful job-related/functional context essential skills curriculums.

Job-Related/Functional Context Programs

Programs to teach basic skills within the context of the job have been examined for two decades. Studies in military and civilian settings have made it possible to establish guidelines for understanding and developing basic job-related/functional context literacy curriculums (Mikulecky & Drew, 1988; Mikulecky & Winchester, 1983; Sticht, 1987; Sticht & Mikulecky, 1984). Sticht and Mikulecky write "the functional context principle states that skills and

knowledge are best learned if they are presented in a context that is meaningful to the person" (1984, p. 33). Mikulecky and Drew concur: "Integrating literacy tasks and job-specific problem-solving strategies helps the adult learner retain basic skills training and transfer it from the classroom to the workplace" (1988, 2-23). Adding further support, Pershing and Gillie observe "researchers and authors may not always agree about what is basic. . . [but] there is agreement that basic academic skills cannot be separated from the job" (1988, p. 1-7).

Supporting the functional context principle, Philippi (1989) contends that job-related literacy skills, including reading, writing, and computation tasks, require different applications of basic skills from those which are traditionally taught in adult education courses or other academic environments. Using charts, manuals, and processes that workers use to perform tasks "ensures that the instruction will be meaningful to employees in terms of what they are already familiar with, i.e., their jobs" (1989, p. 3).

Business and industry, too, have begun to recognize the necessity for essential skills programs. A 1988-89 American Management Association (AMA) survey of corporate literacy programs concluded that no matter what the name of basic skills "remedial" courses, one important component of a program that ensures success is developing job-related/functional context courses. The respondents to the survey generally agreed that the more directly related the substance of basic skills training programs are to the concerns and motivations of the participants, the more likely the outcomes will be successful.

At the foundation of the growing support for job-related/functional context programs are the research reports of Sticht and Mikulecky. In their 1984 monograph presenting three case studies and conclusions of essential skills programs, Sticht and Mikulecky concluded:

- It is possible to make fairly rapid gains in ability to comprehend technical material if training is focused on that material.
- General literacy improvement is not a noticeable result of job-related basic skills training unless there is sufficient time on task (i.e., 5 hours per week) with appropriate general materials.
- Integration of basic skills training with technical training produces the best results.
- Training that employs job simulations and applications of literacy increases trainee time on task (p. ix).

Given the message, the question remains for educators seeking partnerships — "How do we begin?"

Developing Job-Related/Functional Context Curricula

Developing essential skills programs requires careful planning by trained educational professionals in partnership with business, industry, or governmental agencies. Sticht and Mikulecky (1984) advocate the necessity for program developers to formulate conceptual models of the adult learner. They indicate research of job-related programs suggests the importance of four principles:

- 1 maintaining an orientation to the mission of the business, industry or government organization for which basic skills programs are to be developed;
- 2 providing training in basic skills within a functional context;
- 3 arranging program conditions to maximize active learning time; and
- 4 using a competency-based, mastery learning approach where possible (p. 32).

While educators can support the last three principles, they may have philosophical differences with the first principle. "Such professionals have ordinarily been taught to regard the individual and his or her needs as the major focus of concern" (Sticht & Mikulecky, 1984, p. 32). If, however, educators enter into partnership with business, industry or government agencies, they will have "to consider the mission and goals of their client's organization . . . as the primary concern" (Ibid.). Viewing the client as a partner and developing "a basic skills program . . . that will help the business or agency achieve its goals in a cost-beneficial manner . . . [will ensure] a company is more likely to become engaged in basic skills training" (Ibid.).

Honoring the mission and goals of the clients' environment while maintaining the integrity of the educational institution can be a difficult process. In presenting guidelines for community colleges entering the training field, Clarke maintains:

The institution must always maintain curricular control. While the needs of the company are of prime importance and the institution should accommodate in every way possible, the institution has the responsibility to design and deliver the instructional program and certify its quality (1984, p. 30).

To maintain curricular control, identifying qualified personnel to work with business and industry partners is critical. Currently, however, no standardized qualifications or training exists. Philippi observes that developing and implementing successful essential skills curriculum "is a highly specialized and newly defined area of training expertise" (1989, p. 6). More specifically, Clarke maintains colleges "must respond with [their] best academic generalists who are well-founded in curriculum planning, design, and organization and who, at the same time, have a strong pragmatic view of the marketplace, the community, and society at large" (1984, p. 46).

Sticht and Mikulecky have also formulated criteria for personnel involved in developing and implementing essential skills training programs. The researchers advocate that developers of job-related/functional context programs "should acquire an understanding of the person as an information processing system that develops new capabilities over time using prior knowledge and skills as the means for acquiring new knowledge and skills" (1984, pp. 6-7). Furthermore, developers should "have a sound conceptual model of the basic skills of adults. Such conceptual models are useful in the design of needs assessments, program materials and approaches, and evaluation techniques" (Ibid., p. 32).

Implicit in the suggestions is the fact that essential skills training programs involve a complex planning process. Rothwell and Brandenburg recommend long term instructional planning. They suggest "the challenge of curriculum design is to build a coherent, sequential plan which will provide structure and unity to the full gamut of . . . training programs" (1990, p. 145). To address the challenge, the authors' guidelines for curriculum development begin with (1) establishing purpose, policy, goals, and objectives of the . . . basic skills training program; (2) assessing the results of a needs assessment in order to develop a course specification, "defined as a general description of one learning experience designed to meet an identified basic skills training need" (p. 174-174).

Sticht and Mikulecky, too, emphasize the importance of "a systematic procedure that ensures that the basic skill tasks to be taught are actually representative of the job" (1984, p. 34). One such model from military research and development is the Instructional Systems Development (ISD), a process model involving analysis, design, development, implementation, and evaluation. Sticht and Mikulecky stress "the processes are interactive and they each may occur on an interactive basis" (Ibid.).

Echoing Sticht's and Mikulecky's ISD recommendations, the American Society for Training and Development (ASTD) also advocates ISD as a successful model. In programs developed to provide employees with training in the expanded essential skills, including learning to learn, reading, writing, computation, problem-solving/creative thinking, communication, Carnevale, et al., suggest programs are successful when they (1) evolve from an action plan that engages managerial and union support; (2) follow a systematic approach to a program's design, development, and implementation; (3) apply learning methodologies that include a job-related/functional context training approach (1990, p. 399).

For an educational institution to commit to developing partnerships to provide essential skills training to business and industry, the institution must recognize the necessity to "have clear policies and procedures that make it bureaucratically simple to deliver the training [to which it has committed]" (Kopecek, p. 22). Adhering to a process model such as Instructional Systems Development can do much to ensure successful partnerships through successful programs.

Designing Curriculum and Instruction Following the ISD Model

Analysis A job-related/functional context curriculum begins with the analysis of "the results of a basic skills needs assessment [which] provides professionals with detailed information about existing gaps between what people know or do when they start a job and what they need to know to succeed in a specific job" (Rothwell & Brandenburg, 1990, p. 173). Other leaders in the field of job-related/functional context essential skills programs concur.

Sticht and Mikulecky emphasize the importance of a "systematic procedure that ensures that the basic skill tasks to be taught are actually representative of the job" (1984, p. 34). Mikulecky and Drew list the following procedures for utilizing a task analysis to develop essential skills components for vocational and technical training programs:

- observation of job occupants
- interview of job occupants
- examination of job descriptions
- observation (with questioning) of job activities
- collection and analysis of job-related printed materials (1988, p. 2-20).

Philippi advocates "[identifying] critical job tasks and [analyzing] them to find out how thinking strategies are used to apply literacy skills in competent job performance" (1991, p. 171). Labeling curriculum developers "master jugglers" because "they must simultaneously consider content, time limitations, learners' ability levels, media, and format" (1991, p. 136), Philippi contends the complexity of the process demands "the same persons who develop curriculum also develop and conduct the Literacy Task Analyses observation and interviews" (Ibid.).

The specific "how to's" for developing and conducting job task analyses and literacy audits as well as a comprehensive resource list are fully discussed in Chapter 3, Assessment and Evaluation, of this handbook.

Design In accordance with an Instructional Systems Development model, curriculum development begins when the need for essential skills training and identification of essential skills tasks has been established. This is the point at which the curriculum designer conceptualizes what the essential skills program will "look like," based on the needs determined during the analysis process. Carnevale, et al., describe the phase as the step in which "the job situation is transformed into valid learning situations that simulate the pressures or conditions on the job under which an individual must work" (1991, p. 5.3). Sticht concludes the simulation of the job to the greatest possible extent "will ensure the most rapid learning of the job basic skills and their transfer to the job setting, whether that is a training or performance setting" (1987, p. 6.4).

In Workplace Basics Training Manual (Carnevale, et al., 1991) the design process includes writing performance objectives based on the results of the analyses. In turn, the objectives form the basis for the design of criterion-referenced tests that signify competence. Other components of this phase include the design of evaluation and record-keeping instruments to measure how successful the essential skills program has been in meeting the needs of the organization and the individual. It is also recommended that the program manager be hired no later than this stage in order to facilitate continuity. According to Philippi (1991, p. 171), the design stage should address the following parameters:

Content	Literacy Task Analysis documentation and job materials
Time	Schedule for instructional delivery and requirements for skill mastery
Ability	Ability level of participants and any special requirements identified during needs assessment
Media	Delivery of instruction by the media that most nearly matches the actual job performance context
Format	Structural design of materials to best satisfy delivery options, such as self-study, uniquely qualified instructors, and multiple locations

Philippi maintains these parameters function concurrently, one factor influencing another. For example, "the schedule for delivering instruction and the length of each instructional period will dictate the amount of content that can be delivered each session" (1991, p. 165). Furthermore, essential design and development of the curriculum is that "the instructional delivery schedule must interface with the skill and task content to be addressed" (Ibid., p. 155). Instruction should be designed as units that do "not abruptly break off in mid-session [and will ensure] continuity of topic presentation and sufficient practice time for learning mastery" (Ibid.).

Ability level of the learners, too, is a significant factor. Sticht and Mikulecky (1984) emphasize that if low literacy is a factor:

... the design of learning activities should proceed from experience with the materials that are to be used, accompanied by oral language learning of vocabulary, concepts, and job principles and rules. Reading assignments should build on this prior experiential and oral language base of knowledge. Extended practice should be designed into all activities for adequate levels of skill to be attained (p. 35).

These specifications enable the developer to prepare a **course outline** of an essential skills program.

Rothwell and Brandenburg (1990, p. 174) suggest that course specification should address the following questions:

1. What is the purpose of the learning experience?
2. What should participants know or do by the end of the learning experience?

(What will be the results of the training for participants?)

3. For what kind of people is the experience intended?
4. How is the training delivered?
5. Is the training available through alternative delivery methods?
6. When is the training offered?
7. How do prospective participants "register"?
8. Where is the training offered?
9. How are results measured?

The answers to these questions will help the curriculum designer to formulate a course outline from which actual learning activities will be developed.

Development Design and development are often linked in curriculum and instruction literature. In most systematic development models, however, the two terms are more specified. According to Sticht and Mikulecky, this phase involves "the specification of actual learning activities . . . (including tests) into an overall systematic program of basic skills training" (p.35).

Following an instructional design approach, the developmental phase involves translating design into actual course materials, personnel, and program environment (Carnevale, et al., 1991, p. 6.3). According to Carnevale, et al., this phase involves developing lesson plans and instructional materials, evaluating training manuals, applying concepts of adult learning theory (see Carnevale, et al., Workplace Basics Training Manual, p. 6.9).

In developing materials for job-related/essential skills programs, the curriculum development staff uses actual job-related materials, such as manuals, graphs, charts, forms, etc. In utilizing these materials, developers must make them "accessible" to the reading level of the participants. This means "chunking" information, developing vocabulary lists, designing page formats with larger type face, etc.

To measure the readability level of job-related materials, Sticht proposes a "readability analysis task." Developers select a sample of 150 words; count the number of one syllable words in a sample, divide the number of one syllable words by ten, subtract the result from 20 to get an estimate of reading grade level of difficulty (1987, p. 1.8):

FORECAST	Number of 1 syllable words
Reading Grade Level= 20 minus	<u>in a 150 word sample</u>
Level (RGL)	10

This section of the handbook deals extensively with factors important to the development of essential skills programs.

Implementation The best designed and developed program is only as good as the

manner in which it is implemented and delivered. During this phase, a "training program manager will play a crucial role and will need to be chosen very carefully" (Carnevale, et al., p. 7.3). and training of the instructional staff is also crucial.

Ideally, a pilot program can be offered to validate the program and materials. Sticht (1987) stresses that "it is important that the entire curriculum and training management system be allowed to operate for some time in order to determine how well materials and procedures are working out" (p. 6.5).

Carnevale, et al., include a table concerning how to conduct a pilot test in their Workplace Basics Training Manual:

1. Preparation of Session
 - a. Finalize materials.
 - b. Choose participants.
 - c. Decide on evaluation process.
 - d. Choose and brief instructors.
 - e. Select other nonparticipant observers.
2. Conduct the Program
 - a. Downplay the fact that it is only a pilot session.
 - b. Hold regular instructor briefing sessions.
 - c. Collect as much data as possible.
3. After The Pilot Test
 - a. Resolve any problems that emerged.
 - b. Revise training material.
 - c. Finalize instructor notes.
 - d. Publicize the pilot results.
 - e. Inform design team of pilot test results.

While this check list is not extensive, it does serve as a guideline for validating a program. An extensive discussion of implementation is in this section of the handbook.

Conclusion

Educators know how to develop and teach curriculum. Entering into partnership with business and industry, however, is a complex process not to be taken lightly. Following a systematic process for program development, such as the Instructional Systems Development model, can do much to assure the design, development, and implementation of successful programs. (Given the current focus on revitalizing the economy, colleges and technical institutes should play a dynamic role.

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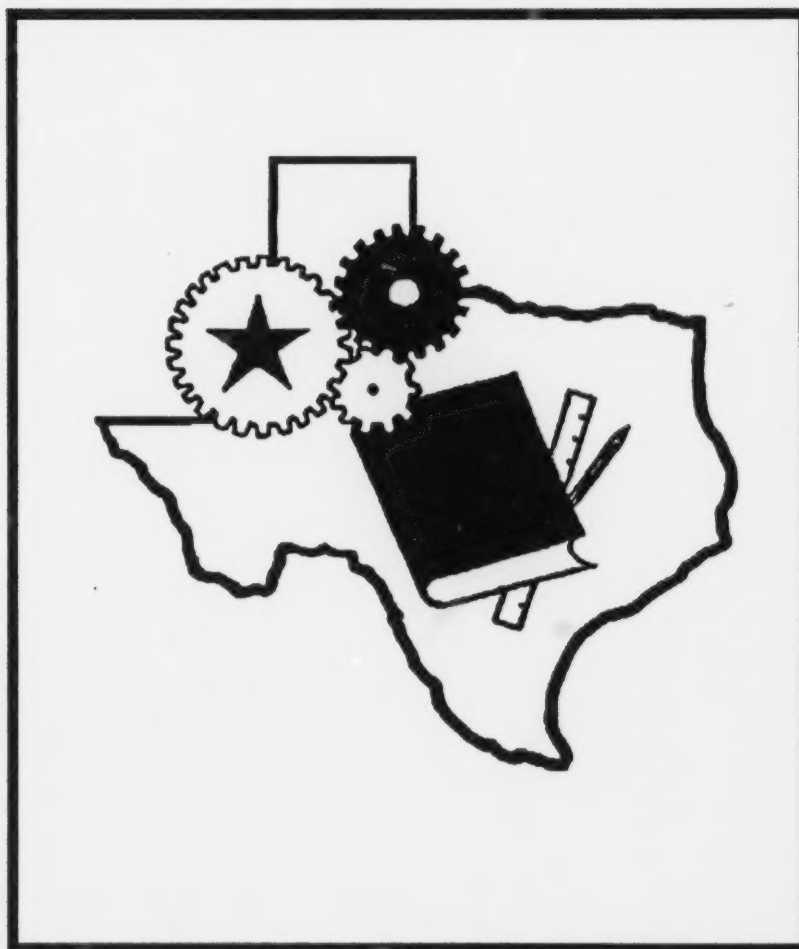
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Resources



GLOSSARY OF TERMS

Advisory Committee- An advisory committee is a group consisting of operating supervisors, hourly workers, managers, executives, union representatives, trainers, and (sometimes) learners who meet regularly to review the basic skills training program.

Workplace Literacy Primer, 1990, p. 281.

Advisory Committee- Typically, such committees include representatives from the training and human resources department, operational department heads or supervisors directly affected by any proposed training program, plant managers, union or other employee representatives, and employees themselves.

Workplace Basics, 1990, p. 405.

American Society for Training and Development-

1630 Duck Street, Box 1443

Alexandria, VA 22313

(The society of in-house trainers)

Workplace Literacy Primer, 1990, p. 30.

Andragogy- In the early 1960's European adult educators, especially in France, Germany, Yugoslavia, and the Netherlands, started using the label "andragogy" to identify this body of theory and technology of adult learning adults. A description of andragogy as currently practiced might be the art and science of helping maturing individuals to learn.

Teaching and Learning Basic Skills, 1984, p. 30.

Andragogy- According to Malcolm Knowles, a major objective has been the development and refinement of a process for improving the learning-process skills of adults. That process is known today as andragogy.

Workplace Basics, 1990, p. 72.

Application Assessment- One effectiveness measure. Client of this measure is management and those responsible for fund allocation. Assessment tools used are performance checklists, interviews, or questionnaires. The learner's output on-the-job is measured, either by self or others, or through performance in simulations or activities in an assessment lab etc. Data is relatively harder to generate and attribute to training.

Strategies For Evaluating Training, 1990, p. 99.

Assessment- Assessment is the process of gathering data for decision-makers on how well an individual(s) can perform a task(s).

TEA, 1990.

Basic employability skills- abilities needed by individuals to find and hold gainful employment.
Workplace Literacy Primer, 1990, p. 255.

Basic employability skills- The first part involves learning a clear-cut set of competencies that prepare people for employment. The second part of employability competency is sometimes referred to as job keeping or work-maturity skills of personal management.
Workplace Basics, 1990, p. 255.

Basic life skills- all fundamental abilities needed by individuals to function independently as adults in society.
Workplace Literacy Primer, 1990, p. 4.

Basic skills- the skills necessary to function responsibly in all contexts outside the workplace.
Workplace Literacy Primer, 1990, p. 5.

Basic skills- For employers, the basic workplace skills challenge has been coming into focus for some time. Reading, writing, and math deficiencies have been the first to appear in the workplace; but increasingly, skills such as problem solving, listening, negotiation, and knowing how to learn, as well as teamwork, self-esteem, leadership, and motivation/goal setting, organizational effectiveness, employability/career development, reading and listening skills, and creative thinking are also viewed as essential.
Workplace Basics, 1990, p. 2.

Criterion Test- One measure to determine if a performance objective has been achieved. The performance of the learner is compared to a predetermined standard or criterion, not to the performance of others.
Strategies For Evaluating Training, 1990, p. 99 .

Document Literacy Tasks- Required readers to demonstrate the knowledge and skills associated with locating and using information contained in job applications or payroll forms, bus schedules, maps, tables, indexes, and so forth.
Towards Defining Literacy, 1990.

Entry-Level Test- A measure to determine if the learner has certain skills at the time they enter the training program (not to be confused with prerequisite tests or skills).
Strategies For Evaluating Training, 1990, p. 99 .

Evaluation of Basic Skills Training- Without sound, objective training evaluation, we have only subjective assessments of values and success. In these times of tight resources, that is not enough to justify continuing a training program. Evaluation must be keyed to discovering the most appropriate and cost-effective training response and to illustrate how that training helps the organization meet its strategic goals.
Workplace Basics, 1990, p. 418.

Formal Small Group and Large Group Training- is carefully structured and planned. It is usually help off-the-job.

Workplace Literacy Primer, 1990, p. 231.

Formative Evaluation- A measure of the learners progress during training. Provides information to the learner and instructor as input to their efficient management of the learning process.

Strategies For Evaluating Training, 1990, p. 99.

Front-End Analysis- The process to determine job accomplishments, behaviors, and influences of performance which contribute to, or impede achievement of the organization's mission and objectives.

Workplace Literacy Primer, 1990, p. 6.

Functional Illiteracy- Literacy is not a single concept such that people are either "literate" or "illiterate"—or even "functionally literate" or "functionally illiterate." Researchers estimated that, in 1974, 23 million Americans were functionally illiterate because they could not perform simple daily activities like reading a bus schedule.

Workplace Literacy Primer, 1990, p. 6.

Functional Illiteracy- "literacy depends on the context of the situation, not on (a) specific achievement level".

Workplace Basics, 1990, p. 73.

Functional Job Context Approach to Basic Skills Training- differs from a remedial or subject-oriented approach. Reading is treated in the context of its application to work tasks.

Workplace Literacy Primer, 1990, p. 187-189.

Functional Job Context Approach to Basic Skills Training- The functional context principle states that skills and knowledge are best learned if they are presented in a context that is meaningful to the person. Thus, rather than teaching students who need job-oriented basic skills to read, write, and compute using general literacy materials, it is better to use job reading and numeric materials and tasks.

Workplace Basics, 1990, p. 416.

Goal(s)- a broad, general statement of desired results.

Workplace Literacy Primer, 1990, p. 108.

Hierarchy- A graphic representation of the relationship between the terminal objective and subordinate objectives in a training course.

Strategies For Evaluating Training, 1990, p. 99.

Informal on-the-job Training-is not planned and is carried out while the learner is working.

Workplace Literacy Primer, 1990, p. 214.

Informal on-the-job- Competence can also be achieved during on- the-job functional-context training by emphasizing the same comprehension, studying, and learning skills that are used in school courses.

Workplace Basics, 1990, p.417.

Informal Small-Group and Large-Group Training- is loosely structured and is not planned carefully. Small-group training is typically delivered to groups ranging from 4 to 6 people; large-group training is delivered to groups of 7 or more people.

Workplace Literacy Primer, 1990, p. 230.

Instructional Effectiveness- Training courses are effective to the degree they produce improved performance in the work place and therefore contribute to the achievement of the organization's mission and objectives.

Strategies for Evaluating Training, 1990, p. 99.

Instructional Efficiency- Training courses are efficient to the degree they make people effective in less time or with less money than is required with alternative modes of getting people to perform.

Strategies For Evaluating Training, 1990, p. 99.

Instructional Objective- "is a description of a performance you want learners to be able to exhibit before you consider them competent. An objective describes an intended result of instruction, rather than the process of instruction itself."

Workplace Literacy Primer, 1990, p. 181.

Instructional Objective- the goal of instruction is improved job performance.

Workplace Basics, 1990, p. 420.

Interest Survey- A marketing tool that yields results quite different from diagnostic tests.

Workplace Literacy Primer, 1990, p. 169.

Interpersonal Skills, as Basic Skills- "The ability to judge and balance appropriate behavior, cope with undesirable behavior by others absorb stress, deal with ambiguity, listen to others, inspire confidence in others, structure social interaction, share responsibility, and interact easily with others."

Workplace Literacy Primer, 1990, p. 150.

Interpersonal Skills, as Basic Skills- can help many employees recognize and improve their ability to determine appropriate self-behavior, cope with undesirable behavior in others, absorb stress, deal with ambiguity, structure social interaction, share responsibility, and in general interact more easily with others.

Workplace Basics, 1990, p. 32.

IRT- is a mathematical model for estimating the probability that a person will respond correctly to a particular task.

Towards Defining Literacy, 1986.

Job Aids- anything that provides employees with job-related information at the exact point in time when it is needed.

Workplace Literacy Primer, 1990, p. 89-90.

Job Description- a fundamental tool of good personnel practice. It summarizes major activities of a job title, all jobs sharing the same label, such as secretary or production worker.

Workplace Literacy Primer, 1990, p. 165.

Job Specification- can be (potentially) useful tools for training and development professionals because they should summarize what a successful or ideal applicant to the job should know or do.

Workplace Literacy Primer, 1990, p.165.

Learning Assessment- One effectiveness measure. Client of this measure is the course instructor and/or instructional designer. Various tools such as Criterion Tests, Mastery Tests, Performance Tests are used to determine if the participants have met the training or learning objectives. Data is relatively easy to generate and attribute to training.

Strategies For Evaluating Training, 1990, p. 99.

Learning Disabilities- "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations."

Workplace Literacy Primer, 1990, p. 10.

Lesson Plan- is a blueprint for instruction, often written in the form of a highly-detailed outline, which guides an instructor step-by-step through a topic.

Workplace Literacy Primer, 1990, p. 190.

Life Planning- is best understood as activities undertaken by an individual to chart out the direction of his/her life. It addresses such issues as these: "who am I?," "what do I want to do with my life?," and "how do I become what I am capable of becoming?" Generally speaking, life planning includes both career planning and personal planning.

Workplace Literacy Primer, 1990, p. 255.

Literacy- is not a single concept such that people are either "literate" or illiterate"—or even "functionally literate" or "functionally illiterate." Instead, literacy is a dynamic and multifaceted concept that varies by context.

Workplace Literacy Primer, 1990, p. 4.

Literacy- The ability to read changes significantly depending on its situational context. Outside the academic environment, literacy is more difficult to define because besides being dependent on context, literacy requirements change over time.

Workplace Basics, 1990, p. 71.

Literacy Audit- "an investigation that leads to definitions of jobs in terms of their basic skills requirements and then to an assessment of the workforce's proficiency in those skills. This procedure is not inexpensive; however, it will yield a detailed picture of job-specific basic skills requirements and should result in training that does not waste time or money in non-relevant areas. The tools of a literacy audit are observation, collection and analysis of materials, interviews, and customized tests".

Workplace Literacy Primer, 1990, p. 153.

Long-term Plans for Basic Skills Training- An appropriate time to begin clarifying these long-term plans is after the training programs purpose, policy, goals and objectives have been established but before in-depth needs and task analysis is conducted to determine specifically what should be taught—and how it should be taught—to targeted learners. At this point the aim is to look at the "big picture"—all—elements in a unified experiences—rather than the "small picture" of each planned course or session.

Workplace Literacy Primer, 1990, p. 120-121.

Management Support- means readiness for change backed by the resources necessary for taking appropriate action.

Workplace Literacy Primer, 1990, p. 55.

Managing Basic Skills Training- encompasses many activities. Among them: maintaining the support of the organization's key decision-makers for basic skills training; establishing and monitoring a program budget; establishing and maintaining a positive work climate for participants and staff; establishing program standards, policies, and procedures; locating and arranging facilities.

Workplace Literacy Primer, 1990, p. 276.

Metacognition- the individual's ability to monitor and evaluate his or her progress in a learning or problem-solving task. It is a degree of awareness of the skills, strategies, and resources needed to perform a task effectively.

Learning to Learn Across the Life Span, 1990, p. 175.

Needs Assessment- A process of determining the difference or gap between skills required for competent job performance and skills possessed by the individual performing the job.

Strategies for Evaluating Training, 1990, p. 99.

Needs, Basic Skills Training- In the most general sense, any training need is a gap between what is—and what should be—. The basic skills training need—is more specific. It is defined as a gap between what people already know or can do when they start a job and what they should know or do to succeed in job- specific training and subsequently perform the job competently as technological and other changes affect their job duties.

Workplace Literacy Primer, 1990, p. 146-147.

Needs Assessment, Basic Skills Training- A basic skills training needs assessment is the process of identifying gaps between what people already know or do when they start working and what they should know or do to succeed in job-specific training and subsequently perform their jobs competently. When carrying out this process, training and development professionals must discover what assumptions they can safely and realistically make about the knowledge, skills and attitudes that employees bring with them to the workplace at the time they begin learning their jobs.

Workplace Literacy Primer, 1990, p. 147.

Needs Assessment, Basic Skills Training- The first step is to assess the extent of the skills problem and consider options for mitigating it. Is training the only solution? Sometimes the solution to a problem is not training but modification of written materials, a change in policy, new technology, and so forth.

Workplace Basics, 1990, p. 404.

Norm-referenced Test- A test in which the learner's performance is evaluated in relation to the performance of other learners.

Strategies For Evaluating Training, 1990, p. 100.

Objectives, of Basic Skills Training Program- are measurable statements of results to be achieved. They are bound by time. Based on goals—which are typically not bound by time or measurable—objective describe what specific results are sought from the basic skills training program over a given time period.

Workplace Literacy Primer, 1990, p. 108.

Performance- A level of skill or competence; usually predetermined.

Strategies For Evaluating Training, 1990, p. 100.

Performance Analysis- is a systematic approach to problem- solving. Its purpose is to identify the cause(s) of a problem and formulate an appropriate solution-or solutions-to it.

Workplace Literacy Primer, 1990, p. 32-33.

Performance Improvement Strategies- Solutions may require long- term rather than short-term action. Hence, they are sometimes called performance improvement strategies—a term which implies long-term commitment, rather than solution, which may imply “quick fixes.”

Workplace Literacy Primer, 1990, p. 75.

Performance Objective- A statement (usually written) describing the intended training outcome in terms of learner performance.

Strategies For Evaluating Training, 1990, p. 100.

Person Specification- based on job descriptions. After all, a job description clarifies what activities are carried out in a job—not what knowledge, skills or attitudes an ideal applicant should possess.

Workplace Literacy Primer, 1990, p. 166.

Personal Planning- has to do with nonoccupational related planning—such as choice of spouse, religion, or political affiliation.

Workplace Literacy Primer, 1990, p. 255.

Planning Basic Skills Training- means “establishing direction” and “determining what to do and why.”

Workplace Literacy Primer, 1990, p. 276.

Policy- “a policy is a general statement that is designed to guide a person’s thinking about decision-making in an organization. A policy specifies a definite course of action to be followed under certain circumstances.”

Workplace Literacy Primer, 1990, p. 104.

Position Description- summarizes the duties, responsibilities, and job activities of one person carrying out one job. It is much more specific than a job description, which typically sets forth common duties spread across more than one position.

Workplace Literacy Primer, 1990, p. 247.

Position Specification- is a brief description of the education.

Workplace Literacy Primer, 1990, p. 247.

Prerequisite Test- A process used to determine a minimum competence assumed by the instructional designer to be present in the learner.

Strategies For Evaluating Training, 1990, p. 100.

Prose Literacy Tasks- required the reader to demonstrate the knowledge and skills associated with understanding and using information from texts that include editorials, news stories, poems and the like.

Workplace Literacy Primer, 1990, p. 178.

Purpose, of Basic Skills Program- the purpose statement for an in-house basic skills training program should also clarify the primary reason(s) for program’s existence.

Workplace Literacy Primer, 1990, p. 103.

Purpose Statement, on Course Specification- encapsulates in a sentence or two the chief justification for the learning experience. It answers the following question: "what is the primary instructional need that warrants this training?"

Workplace Literacy Primer, 1990, p. 178.

Quantitative Literacy Tasks- required the reader to perform different arithmetical operations, either alone or sequentially with information that was embedded in either prose or document formats.

Towards Defining Literacy, 1986.

Reaction Assessment- One effectiveness measure. Client of this evaluation is the course instructor and/or instructional designer. Various tools such as questionnaires or interviews are used to measure the learners reaction to content relevancy, format, readability, fun, comfort, meals, location, networking, instructor, etc. Data is relatively easy to generate and attribute to training.

Strategies For Evaluating Training, 1990, p. 100.

Results Assessment- One effective measure. Client is senior management. There is a long-term duration before seeing any pay-off from training. Tools used are a cost-benefit analysis (see Worth Analysis) or pre/post training comparison of data already in the system. (e.g, accident rates, new accounts, rejects, absenteeism, turnover within 90 days, etc.) Data is relatively harder to generate and attribute to training.

Strategies For Evaluating Training, 1990, p. 100.

Schema- 1) Scheme plan outline or diagram specifically in logic syllogistic figure. 2) A subconscious adjustment of the brain to the different impulses indicative of bodily posture. It is a prerequisite of appropriate bodily movement and of spacial perception.

Websters Dictionary

Scoping- means "to determine how much effort should go into the training."

Workplace Literacy Primer, 1990, p. 131.

Sequencing the In-House Basic Skills- Focus attention at all times on offering basic skills training that is consistent with the desired purpose and goals of the sponsoring organization, basic skills program, and training needs of the job functions targeted for priority attention.

Workplace Literacy Primer, 1990, p. 133.

Social Obligation View- widely held by many top managers. They are bottom-line traditionalists who believe their organizations exist for one purpose—an economic one.

Workplace Literacy Primer, 1990, p. 64.

Social Responsibility View- is also widely held by many top managers, particularly in large, well known organizations. They recognize that work organizations such as businesses, government agencies and nonprofit enterprises have a role to play in improving society.

Workplace Literacy Primer, 1990, p. 65.

Summative Evaluation- Measures the learners performance after the training and in the work place. As such, the focus is on job standards, performance criteria, the attainment of organizational objectives and productivity measures.

Strategies For Evaluating Training, 1990, p. 100.

Surveys- a needs assessment questionnaire—resembles an interview in many key respects. Like interviews, surveys can also be classified into three types: (1) structured; (2) unstructured; and (3) a combination.

Workplace Literacy Primer, 1990, p. 151.

Systems- a group of interrelated elements. Every system is characterized by input, transformation, processes, and output.

Workplace Literacy Primer, 1990, p. 78.

Task- "A set of actions or behaviors which produce a meaningful result."

Workplace Literacy Primer, 1990, p. 152.

Task Analysis- "the development of a description of performances, broken down into components, which supports the purpose of the analysis and are meaningful to users."

Workplace Literacy Primer, 1990, p. 152.

Task Analysis- to identify the skills required to perform the tasks and duties of the specific jobs to be featured in the work-place basics training.

Workplace Basics, 1990, p. 413.

The "Three R's"- Reading- "The ability to read analytically, summarize information, and monitor one's own comprehension of the reading task." Writing- "The ability to write analytically, conceptualize, synthesize, distill information, and articulate points and proposals clearly and succinctly." Mathematics- "The ability to apply math education in the workplace by identifying problems, reasoning about them, and solving them."

Workplace Literacy Primer, 1990, p. 18.

Training- By definition, training supplies skills of immediate applicability to an individual's present job—not broad skills, like education, of general and long-term applicability to the individual.

Workplace Literacy Primer, 1990, p. 75.

Transfer of Learning for Basic Skills Training- the extent to which learners apply on the job what they learned in training.

Workplace Literacy Primer, 1990, p. 306.

Worth Analysis- A process of determining, in dollars and cents, the organizational value of improved performance.

Strategies For Evaluating Training, 1990, p. 100.

ACRONYMS

ABE- Adult Basic Education

ABLE- Adult Basic Literacy Education

GED- General Education Diploma

NAEP- National Assessment of Educational Progress

RIP- Reading Improvement Program

1. Addison-Wesley Publishing
116 Belridge Road
Cheshire, CT 06410
2. Committee on Diagnostic Reading
Mountain Home, NC 28785
3. Curriculum Associates
84 Bridge Street
Newton, MA 02158
4. National Assessment Project
Education Commission of the State
1860 Lincoln Street, Suite 700
Denver, CO 08295
5. Educational Testing Service
Princeton, NJ 08540
6. HBJ/Psychological Corporation
757 Third Avenue
New York, NY 10017
7. Jastak Associates, Inc.
1526 Gilpin Avenue
Wilmington, DE 19806
8. The Riverside Publishing Company
(Houghton Mifflin)
1919 South Highland Avenue
Lombard, IL 60148
9. Scott Foresman and Company
1900 East Lake Avenue
Glenview, IL 60025
10. The American College Testing
Company/ETS
P.O.Box 168
Iowa City, IA 52240

11. Cornell Institute for Occupational Education
The New York State College of Agriculture and Life Sciences
Stone Hall, Cornell University
Ithaca, NY 14853
12. CTB/McGraw-Hill
1221 Avenue of the Americas
New York, NY 01120
13. Educational and Industrial Testing Service
P.O. Box 7234
San Diego, CA 92107
14. Educators Publishing Service, Inc.
74 Moulton Street
Cambridge, MA 02138
15. Houghton Mifflin Co.
Pennington-Hopewell Road
Hopewell, NJ 08525
16. Pleasantville Educational Supply Corp. (SAGE)
21 Paulding Street
Pleasantville, NY 10570
17. Science Research Associates
144 North Wacker Drive
Chicago, IL 60606

SOURCE: Rothwell, Dr. W. J., Brandenburg, Dr. D. C. (1990).

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Center on Education & Training for Employment
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14th and Metropolitan,
Kansas City, Kansas 66103

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Literacy Focus
Rio Grande Valley Family Literacy Coalition
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